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CLINICAL IMPLICATIONS OF MEASUREMENTS OF INTERACTION RATES IN PSYCHIATRIC INTERVIEWS

by

E. D. Chapple*

and

Erich Lindemann*

INTRODUCTION

Measurements suited to the description and comparison of different psychiatric disorders are still in their infancy. Achievement tests for various functions such as memory, judgment, and reasoning, it is true, are widely used,[1,2] and some attempts have been made through the so-called projective methods to obtain comparable pictures of the subjective state of the patient,[3,4] but these are not measurements comparable to the procedures used in physiology and other departments of medicine. The psychiatric disorders have to be described under such headings as "general behavior", "stream of talk", "rapport", and "mood", which are still extremely vague in their meaning, and comparison of these aspects of the patient's behavior and experience from one day to another is usually expressed in terms of "better" or "worse".

We need objective records which can be compared and analyzed. It is often hard to know what standards of judgment a given psychiatrist has used, and he himself is usually unable to justify his basis for evaluation because no accurate and detailed record of the patient's behavior is offered by the usual clinical observations. In addition, our decision about a patient's fitness or sickness depends upon a number of observations which are usually not mentioned and are implicit. These have to do with the patient's manner of conversation, his rate of activity, his gestures, his readiness for response, which are in turn, modified by the psychiatrist's way of acting and responding to the patient. It is difficult to know how many of these have been taken into account by the psychiatrist when evaluating the mental state of any given patient. With increasing experience, the psychiatrist will utilize an increasing number of the available data in making his inferences, but he still is likely to place a different emphasis on an item at one time than at another and to overlook or to minimize the significance of some of his data. Particularly in the neuroses is he inclined to look for conversion symptoms or obsessive trends alone, and he is not likely to assay the minimal variations in the timing of responses and rate of activity which may indicate that the patient also has a mood disturbance or is uncommunicative.

Even more is it true in cases of medical diseases, which have recently become the subject of psychiatric study, that the medical symptoms are so much in the foreground of the examination that the variations in mood, rapport, and behavior of the

* From the Department of Diseases of the Nervous System, Harvard University Medical School and from the Department of Psychiatry, Massachusetts General Hospital, Boston, Massachusetts.

1. Shakow, D., Hoskins, R. G., *et al.*, Cooperative research in schizophrenia, Arch. Neurol. Psychiat. 30: 388-401, 1933.
2. McFarland, R. A., The psychological effects of oxygen deprivation (anoxemia) on human behavior, Arch. of Psychol., 1932, no. 143.
3. Beck, J., Introduction to the Rorschach method, Monog. I, Orthopsychiatric Assoc., 1937.
4. Murray, H. A., Explorations in Personality, New York, Oxford University Press, 1938.

patient have not been noticed or have been considered insignificant. This situation is particularly unfortunate since these aspects are probably very significant for our understanding of the so-called psychosomatic relationships, particularly when we wish to evaluate the effect of drugs in experimental procedures and in therapeutic methods.[5,6,7] For this reason, we studied a series of patients with a method which one of us had developed for the study of interaction and had previously applied to normal individuals interacting in pairs or small groups.[8]

PROCEDURE

The apparatus consists of a moving tape, driven at a uniform speed, on which lines are drawn by pressing a key to indicate the length of activity. There are several keys available on the machine, each of which is activated independently and each assigned to one of the persons who is being observed. When a person starts to act the observer presses his key and holds it down until the person stops acting, when he then releases it. If another acts, his key is held down until his action ceases. In this way it is possible to record the interaction of two or more persons, including interruptions or failures to respond. The length of the line represents the length of the activity and the distance between two segments of a line represents the inactivity. Thus, the part of the record assigned to each individual consists of alternating lines (representing activity) and blank spaces (representing inactivity). By measuring the distance during which both lines or both blank spaces run parallel, one is able to determine the length of interruptions or silences and to see also which person continued to act after the interruption.

The observations were carried on in an office of which a section was partitioned off for the observer, who was seated behind a one-way screen, allowing a clear view of the patient and interviewing psychiatrist. The interviews lasted about forty minutes and were carried out in an informal manner in an effort to obtain a good picture of the patient's behavior, his complaint and its background. Most of the patients knew the psychiatrist and felt at home with him. The observer made an effort to record all gestural and verbal activity of both participants. The same observer made the records for all the patients. The patients were a group of mild neuroses and borderline psychotic states, 23 women and 17 men, ranging in age from 18 to 58.

Hypomanic	4
Psychotic depression	1
Schizophrenia	5
Paranoid states	3
Involutional melancholia	2
Hysteria	7
Anxiety	12
Obsession	4
Reactive depression	2
Total	40
Normals	50

At the same time we obtained through a microphonic device a stenographic record of the content of the conversation and in some instances a phonographic record on a commercial disc-recording device. We had available for comparison a series of normal individuals, recorded under similar circumstances.

FINDINGS

The durations of activity and inactivity on the tape were read off by the use of a scale and recorded on a tabular form. Where two persons are interacting we obtain not only the duration of each action and interaction for each individual, but also measurements of the varying degrees of synchronization. (See Fig. 1.) There are four possibilities for two individuals: first, individual A acts, individual B is silent, second, B acts and A is silent; third, both individuals act; and fourth, both are silent. The *double actions* and *double silences*, as we call them, may be further subdivided in terms of the individual responsible for the interruption or the failure to respond. For convenience we have used

5. Lindemann, E., and Malamud, Wm., The analysis of the psychopathalogical effect of intoxicating drugs, Am. Jr. Psychiat. 13: 928-1006, 1934.
6. Lindemann, E., and Finesinger, J. E., The effect of adrenalin and mecholyl in states of anxiety in psychoneurotic patients, Am. Jr. Psychiat. 95: 353-370, 1938.
7. Lindemann, E., and Finesinger, J. E., The subjective response of psychoneurotic patients to adrenalin and mecholyl (Acetyl-B-methyl-choline), Psychosom. Med. 2: 231-248, 1940.
8. Chapple, E. D., Measuring human relations: an introduction to the study of the interaction of individuals, Monog. 22, Genet. Psychol., 1940; "Personality" differences as described by invariant properties of individuals in interaction, Proc. Nat. Acad. Sci. 26: 10-16, 1940.

SCHEMATIC REPRESENTATION OF TAPE

TO SHOW ACTIONS, SILENCES, DOUBLE ACTIONS, AND DOUBLE SILENCES
(DOUBLE ACTIONS AND DOUBLE SILENCES RECKONED FROM SUBJECT A)

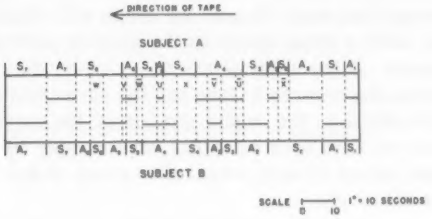

Figure 1

RECORD OF "NORMAL" CONVERSATION

As	As	As-Bs	As-Ba	As-Bs	As-Ba
4.0		4.0			1.0
	1.2			.2	
5.2		5.2			
	.6			.6	
12.7		12.7			
	4.5				4.5
4.0		4.0			
	5.0				5.0
1.5		1.5			
	1.2				1.2
2.7		2.7			
	1.6				1.6
1.6		1.6			
	.7				.7
1.8		1.8			
	2.5				2.5
1.0		1.0			
	4.5				4.5
.8		.8			
	5.0				5.0
3.5		3.5			

NOTE: the almost complete absence of double actions and double silences (As-Ba, As-Bs).

Figure 2

RECORD OF "MANIC" CONVERSATION

As	As	As-Bs	As-Ba	As-Bs	As-Ba	Ba	Bs
	7.5				7.0	8.5	
		1.0					1.0
			5.1			5.1	
		108.9					108.9
			1.7			1.7	
		14.0					14.0
			6.4			6.4	
		15.4					15.4
			18.8			18.8	
		50.4					50.4
			19.1			19.1	
243.0		2.2					2.2
	5.3				5.3		
3.1			3.1				
	1.1				1.1		
			3.6			13.1	
		.6					.6
			18.3			18.3	
		4.6					4.6
			13.6			13.6	
	14.0						14.0
54.8		3.7			1.5		
	1.5		.3			5.5	
		4.5					4.5
			6.3			6.3	
		66.1					66.1
84.0			6.8				
	5.6				5.6		
2.5			2.5				

NOTE: the long duration of the patient's actions (As) and the numerous double actions (As-Ba).

Figure 3

the letters u, v, w, and x to represent these subdivisions. The letters u and v represent double actions and u represents the case in which individual A interrupts individual B, while v represents the case in which B interrupts A. The use of the word "interruption" implies no judgment of motivation but merely refers to the coincidence of actions of two persons. (This action may be verbal or gestural, and on interviewing one of the persons afterward it may be discovered that the action was intended to encourage and not "to take the floor"). W and x represent the two types of double silence; w represents that case in which individual A fails to respond to individual B, while x represents the failure of B to respond to A (again these failures to respond are not interpreted; they may be due to blocking, retardation, or lack of understanding of what the other partner said).

Each of these double actions and double silences, u, v, w, and x, can be further classified on the basis of the person who begins to act or continues to act after one of them occurs. We represent the persistence of individual A after an interruption in continuing his action by placing a bar over the letter. If person B continues and A drops out, no bar would be placed over the letter. Similarly, in the case of double silences if individual A starts action after a double silence, whether he or the other person was responsible for the failure to respond, he would get a bar over the w or x to indicate his initiation of action. On the other hand, if individual B acts after the silence, no bar is placed over the appropriate letter.

In what follows, therefore, we have not merely a record of the total activity rate of the individual made up of alternate actions and inactions but also eight different types of joint activity or in-

RECORD OF "DEPRESSED" CONVERSATION

As	As	As-Bs	As-Ba	As-Bs	As-Ba	Ba	Bs
					1.5	1.5	
				6.1			6.1
					3.4	3.4	
				.6			.6
					1.8	1.8	
	26.6			.5			
.7		.7					1.2
					1.3	1.3	
				1.0			1.0
	12.7				10.4		
			.5			10.9	
1.7		1.2					1.2
	1.3				1.3		
.6			.6				
					5.6	7.5	
				3.0			3.0
					2.9	2.9	
	12.2			.7			
2.9		2.9					3.6
					16.9	16.9	
				2.0			2.0
					3.8	3.8	
	27.2			4.5			
1.1		1.1					5.6
					1.2	1.2	
	1.6			.4			
.3		.3					.7
					5.0	5.0	
	5.4			.4			
4.0		4.0					4.4
					19.9	19.9	
				1.7			1.7
					6.1	6.1	
	28.2			.5			
.8		.8					1.3

NOTE: the long duration of the patient's silences (As) and the numerous double silences (As-Bs).

Figure 4

activity, where the two individuals are not completely synchronized.* In a perfect adjustment, according to our use of the term, none of these types of joint activity or inactivity are present; that means there is a smooth give and take between the two partners. (See Figs. 2, 3, and 4).

In order to represent the material graphically, we have adapted to our purposes a mathematical device called an alternating series. An alternating series is a continuous summation of a sequence of positive and negative terms. These terms alternate; that is, each positive term is followed by a negative term, which is in turn followed by a positive, and so on. By regarding the actions as positive and the inactions as negative, and treating them in a series of this type (plotted on a graph), we obtain a graphical representation of the increment or decrement of action durations against the durations of the inactions. In the charts which are to follow the cumulative sum of the alternating series is plotted on the ordinate and the sequence of intervals, or units of interaction, consisting of one action and the subsequent silence is plotted on the abscissa. (See Fig. 5). The ordinate is divided into a positive or plus section and a negative or minus section. If each action is approximately equal to its subsequent silence, the sum will equal zero and the graph will stay close to the abscissa. If each action is much larger than each silence, the graph will climb rapidly (with a steep slope) on the positive portion of the graph. If the silences are much longer than the actions, the reverse is true and the curve will proceed downward in the minus portion of the curve. The curves have been smoothed very roughly by plotting the means of each consecutive group of four values in the series.

In the analysis of the records we have plotted four curves in alternating series for each individual. The first is made up of the action minus the inaction and the other three are made up of combinations of the various types of double actions and double silences. The first of these is an alternating series in which the u's of the patient (his interruptions) are summed with the w's (his failures to respond). If this curve rises the patient's interruptions of the doctor are more frequent and longer than his failures to respond, and conversely. The second curve is the v-x curve, the doctor's interruptions minus his failures to respond, which expresses the alternating sum of the doctor's interrupting the patient, together with the pauses due to his failing to respond to the patient. The third curve is an alternating series in which the patient's continuation of action, or initiation of action after a silence, represented by a bar, is summed with the doctor's continuations or initiations, the no-bar. In the graphs shown these four curves are repeated for every case.

The first patient presented a hypomanic state and has a very high activity rate which remains constant throughout the interview. (Fig. 6). The three curves representing double actions and double silences also go up at a quite rapid rate. In Figure 7, we have another observation on the same patient on a different day, when the examiner, represented by the v-x curve was "pushing" the patient. The consistency in the slope of the a-s curve is to be remarked.

* One further type which occurs rarely is that in which a double action follows a double silence, and *vice versa*.

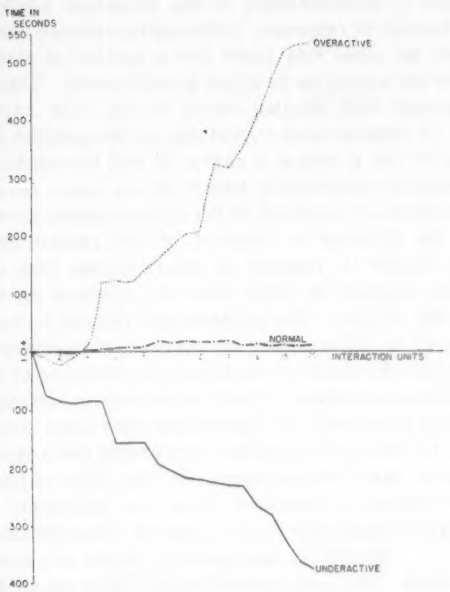

Figure 5: Action-silence curves of high, medium, and low activity rates.

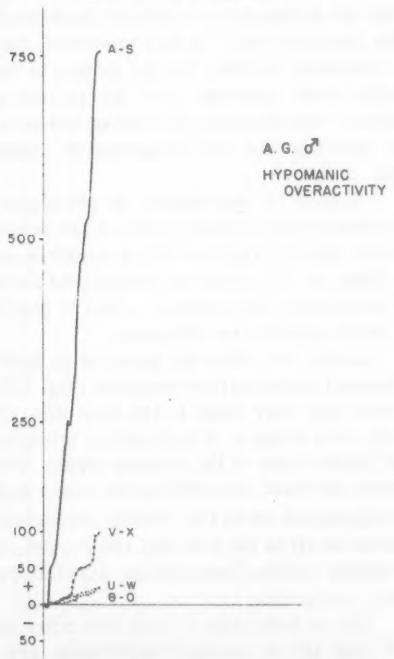

Figure 6: Hypomanic Over-activity

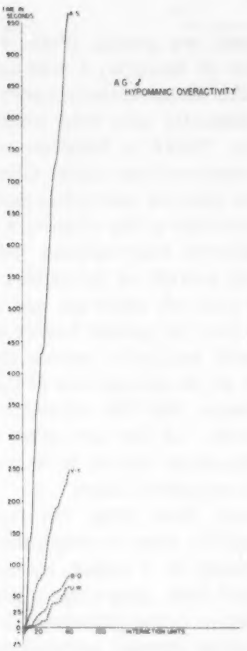

Figure 7: Hypomanic Over-activity

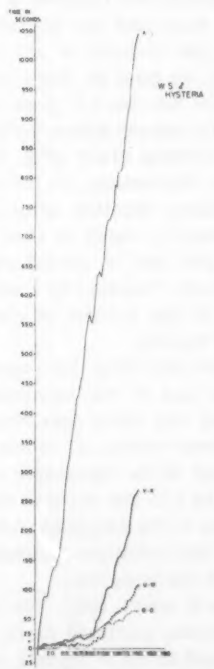

Figure 8: Hysteria I

The next two graphs (Figs. 8 and 9) represent examples of hysteria, a man and a woman. In these cases the action-silence curve rises very steeply but is distinctly less than those of the hypomanic just seen. There is, however, considerable difference in the double action-double silence curves. In the case of the man the horizontal position in the first half of the interview of the v minus x curve representing the doctor's interruptions indicates that in spite of the high activity of the patient (in the A-S curve) the doctor does not interrupt; and the u minus w curve, representing the patient's interruptions and failures to respond similarly travels close to the base line. Only in the second half of the interview does the rate change (and the adjustment) and the curves rise rapidly. In the case of the woman hysteric the double action curves show considerable irregularity with no marked slope.

The next chart (Fig. 10) represents a characteristic anxiety state in which the action-silence curve, although still rising, has several long stretches of a much less steep slope. Most important, however, to notice is the difference in the double action-double silence curves, particularly the fact that the u minus w curve, denoting the patient's surplus of interruptions over failures to respond, proceeds below the base line for the first half of the interview. The last quarter of the action-silence curve resembles the kind of slope found in the hysterias just shown but such a slope is only part of the total curve in the anxiety states we have recorded.

The following chart (Fig. 11) represents a psychoneurotic depression. In the action-silence curve note the sharp negative slope for the first quarter of the record, which is then followed by a short period of gain and a period of about equal actions and silences, followed by a second period of steeper slope. In this record the u minus w curve also drops fairly rapidly.

The next chart (Fig. 12) represents a psychotic depression and it will immediately be noted how much steeper and more consistent the descent of the action-silence curve is; in fact, it is almost the negative image of the hypomanic curve first illustrated. Here the u minus w curve descends much more steeply than in the psychoneurotic depression given above and the initiation-continuation curve is consistently below the base line.

The next chart (Fig. 13) is that of a schizophrenic woman, paranoid form, and presents what we have found to be a typical schizophrenic picture. One of the most characteristic diagnostic factors in schizophrenia is the so-called blocking and latency of response. In the action-silence curve it will be noted that there are a number of places where the action curve drops precipitously. This is associated with similar drops in the u-w curve. Also of considerable importance is the position and slope of the u minus w curve. It will be noted that it remains consistently below all the other curves and it shows, in contrast to the action-silence curve, that the failures to respond of the patient were much longer in respect to interruptions than the actions against the total silences, of which the w's are only a part. One problem that is often bothersome is to differentiate the latency of response of the schizophrenic from the latency of response of the psychotic depression. It will be noticed in contrasting this graph with the depression previously shown (Fig. 12) that in the psychotic depression the u minus w curve has a steeper slope, and the action-silence curve shows a consistent slope as contrasted to marked irregularities in the case of schizophrenia.

Figure 14 represents a patient in a paranoid state. The most characteristic thing about this graph is the marked changes in slope of the A-S curve, from very high activity to very low activity. These tremendous alternations in slope are also to be found in the schizophrenic patient illustrated, who was of the paranoid type. In this interview, the doctor is continually waiting for the patient to resume action after each inaction, and the patient's u-w curve shows considerable alternation between progressive interruptions and progressive latency of response.

Figure 15 represents an obsessive and has what seems to be characteristic, a low initiation-continuation curve, together with a negative action-silence slope by no means as pronounced as that of the psychoneurotic depression. Also it has longer periods which parallel the abscissa.

Lastly we show the graph of an interview with a normal individual for contrast (Fig. 16). All four curves stay very close to the base line. There is a fairly even balance of actions and silences, as well as of interactions of the various types. The action-silence curves of normals rarely come so close to ideal adjustment as in the picture presented here but common to all is the fact that the curves representing double actions run almost parallel to the base line.

As an indication of this, two other graphs (Figs. 17 and 18) of normal individuals are presented. The first of these represents an individual

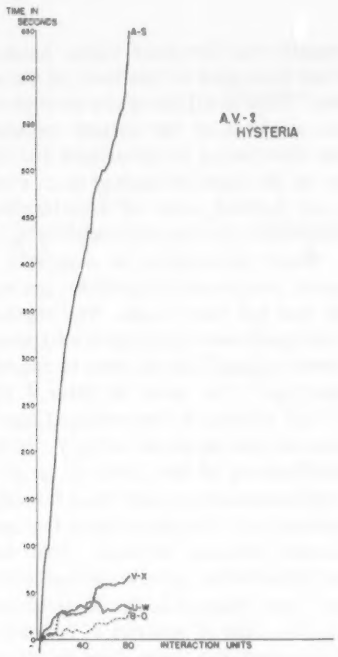

Figure 9: Hysteria II

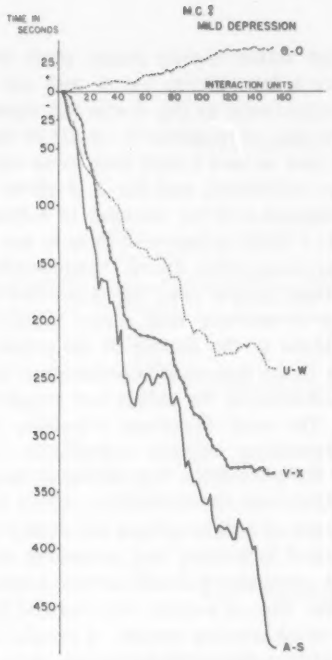

Figure 11: Psychoneurotic Depression

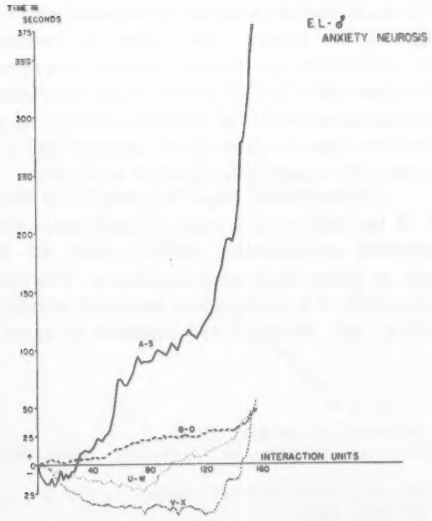

Figure 10: Anxiety Neurosis

Figure 12: Psychotic Depression

with a high action-silence slope, while the second represents a low activity curve with not quite as good an adjustment to the doctor as shown in the other normals. The doctor's report of this individual was that he was a very suspicious and uncommunicative individual, and the A-S curve presents several examples of the changes in activity which is found in a more pronounced form in our paranoid individuals illustrated above. Noteworthy in the first of these graphs (Fig. 13) is the fact that when the change in activity took place marked by the negative slope in the middle of the graph, there is no change in the degree of adjustment of the individual, as indicated by the steady u-w curve.

The most important criterion, however, for differentiating normal individuals from the neurotics and psychotics is in terms of their capacity for adjustment in interaction, which we define as the absence of double actions and double silences. In the normal individual just presented there was very little pronounced double action-double silence activity, but this, of course, represented the cumulative sum of alternating series. A simple and quick method of differentiating these records is to estimate the sum of the number of occasions in which two or more consecutive intervals occur free of double actions and inactions. In the normal individual this proportion is high. In the neurotic individual it is quite low, and in the psychotic individual intervals of adjustment are very infrequent. The following chart (Fig. 19) represents as an example the results of calculating this proportion for 5 normals, 5 neurotics, and 5 psychotics.

DISCUSSION

The study of the activity of organisms has taken two major directions: first, the study of spontaneous activity under constant environmental conditions, and, second, the study of the activity representing a response to changes in the environment. Both these elements are represented in the interaction of individuals, and although the greater part of the human environment is made up of interactions (this is equally true for other higher animals), little attention has been paid to this form of the activity of organisms. This is all the more strange in that the routine examination of the patient necessarily involves the interaction of the patient and the doctor, and many of the factors leading to an evaluation of patients are derived more or less intuitively from characteristics of the interaction pattern.

Some information is available as to the physiological properties of activity, but no systematic study has yet been made. The rhythmic character of this spontaneous activity is well demonstrated for the lower animal, and its rate is specific to different species. The work of Stier,[9] Crozier,[10] Richter[11] and others is the principal source of our information on this aspect of activity. In the mammals modifications of the distribution of the basic activity rhythms seem to result from the adjustments to the environment consequent upon the operation of the autonomic nervous system. The well-known changes in sympathetic and parasympathetic activity consequent upon changes in the environment include changes in the rate of activity of the organism and considerable work has been done on the changes in activity resulting from endocrine stimulation or by drugs[6] affecting the autonomic system such as adrenalin and mecholyl, also by stimulation of certain areas in the diencephalon.[12]

The capacity to interact is definitely a conditioned pattern. The infant animal, whether mouse or human, is unable to interact. He learns how to do so as the result of his necessity to adjust his activity to others. He learns to respond to others and to fit his action-inaction sequence to synchronize with that of others. Characteristically under conditions inhibiting cortical control, no matter whether they be structural lesions or strong emotions, this capacity to interact is altered.

The present paper is concerned with the study of the interaction rates of individuals who do not possess complicating factors such as brain lesions or other structural disorders. The results of this study of a preliminary series of psychotics, neurotics, and normals are intended to show that

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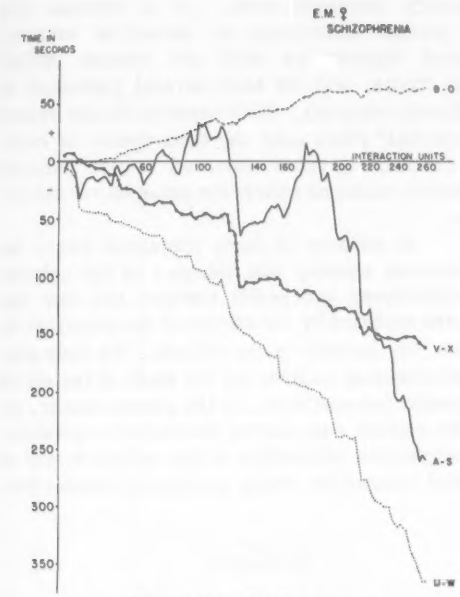


Figure 13: Schizophrenia

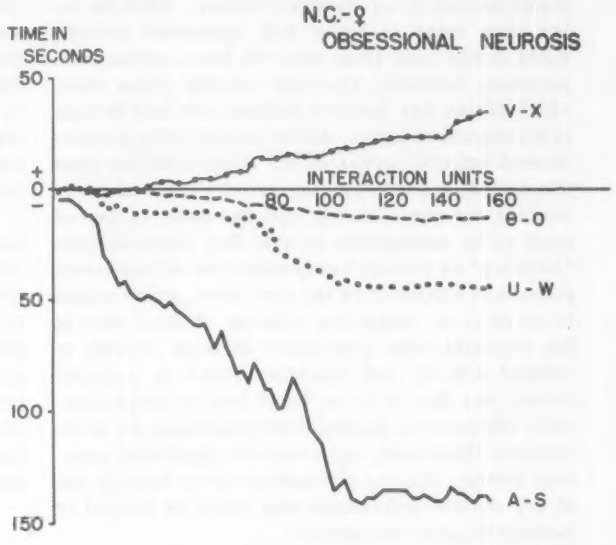


Figure 15: Obsessive Neurosis

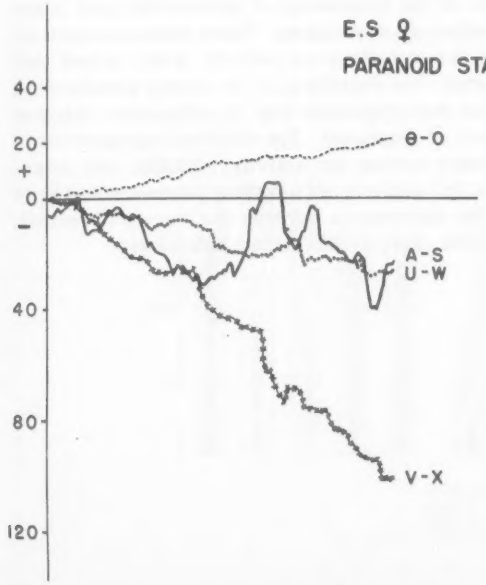


Figure 14: Paranoid State

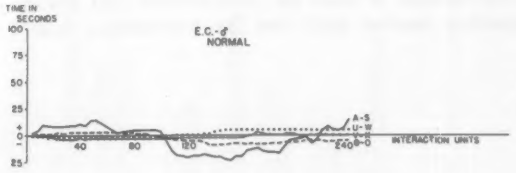


Figure 16: Normal Person

clear-cut differences to be found in the different types of psychiatric disorders clinically can be demonstrated in an objective manner. Thus the interaction rates of manic and depressed patients could easily have been inferred from ordinary experience; however, the high activity rates which characterize our hysteric patients are less obvious to the clinical observer. All our patients with hysteria showed activity curves of the same order as those illustrated, approaching the activity rates of manic persons but quantitatively differentiable. A second point to be emphasized is that the characteristic "blocking" or latency of response of the schizophrenic patients is measured by the u-w curve, which seems to be of great diagnostic interest. A third point is the characteristic alternation between periods of marked activity and inactivity found in paranoid states, and this is to be found both in cases clinically diagnosed as paranoid schizophrenia, as in the instance illustrated, and in the uncomplicated paranoid states. Similar alternations were found in one of our normal individuals who would be labeled as having a "suspicious nature."

In two series of normals, 50 unselected and 150 young males, we have found that the extreme activity slopes of the manics, hysterics, psychotic and reactive depressions do not occur. In all cases, patients suffering from these disorders exhibited far steeper slopes negatively or positively than those found in the normal individuals. All other types, anxieties, obsessions, paranoias, and schizophrenias, fall within normal limits of the activity curve. Diagnostic criteria in these latter cases are dependent upon the shape of the activity curve and in particular upon its interrelations to the other curves and the diagnostic features they present such differences in. Nevertheless, it must be remembered that the interaction curves hold true for psychiatric interviews in which the normal person is not in an emotionally disturbed state. It is obvious that even normal individuals in states of extreme emotional disturbance will not remain within normal limits, and we have several instances of this already recorded. Such persons rapidly return to a "normal" slope once the disturbance is over, while the activity rates observed in our patients remained the same or nearly the same on re-examination.

In addition to those discussed here, we have records showing that changes of the activity rates accompany successful therapy and that the rates are modified by the efforts of the examiner to influence the activity of the patient. We have also started collecting records for the study of the effect of adrenalin and mecholyl. In the present paper, we must be content with having shown that a quantitative comparison is possible of the various forms of disturbed interaction which we meet in mental disease.

SUMMARY

A series of interviews between an examiner and normal, psychoneurotic, and psychotic individuals was observed through a one-way screen. Using a chronographic device, continuous measurements of the interaction of interviewer and interviewed person were taken. These measurements include the durations of activity (both verbal and gestural), the durations of inactivity, simultaneous actions (interruptions) and simultaneous silences (latency of response). The observations show characteristic curves for activity, silence, and interaction for patients with varying diagnoses and show specific differences between the curves of normal, psychotic, and psychoneurotic individuals.

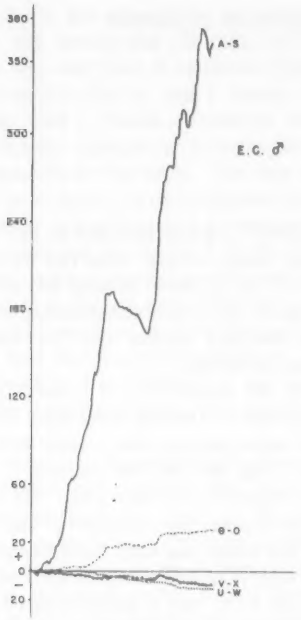


Figure 17: Normal Person

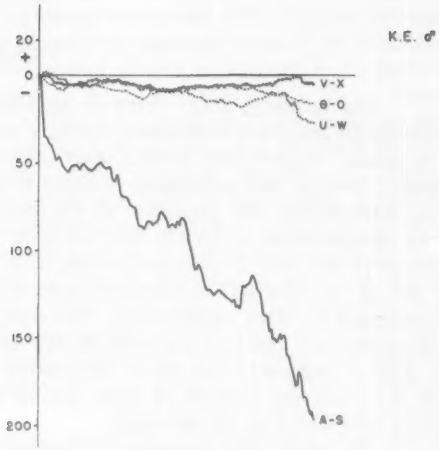


Figure 18: Normal Person

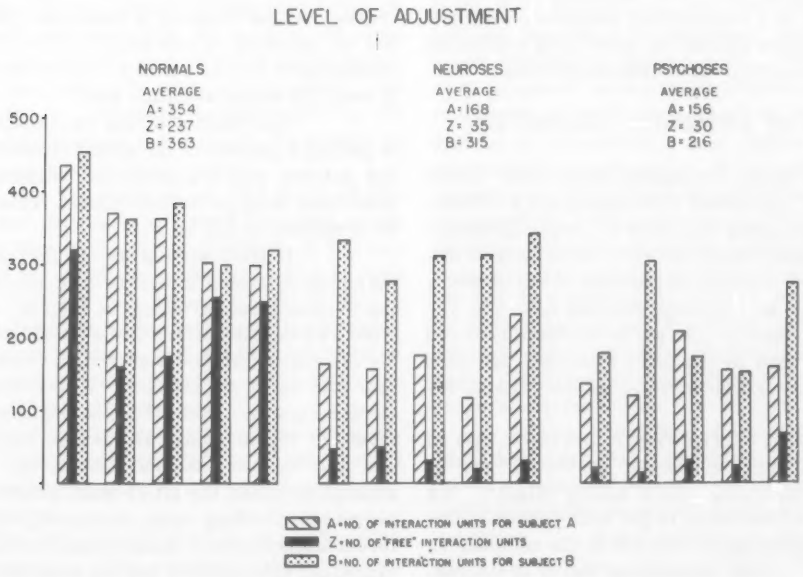


Figure 19: Level of Adjustment

DETERMINATION OF MORALE IN AN INDUSTRIAL COMPANY

by

Conrad M. Arensberg

and

Douglas Macgregor

The following study presents an attempt to put scientific method to work upon a practical problem of human relations and morale in an industrial company. The study was undertaken in order to supply the management and personnel of the company with an interpretation of certain difficulties of attitude and personal feeling which had sprung up in the daily life of the concern and which had to be solved in the interests of better organization. The company was dependent for much of its business life upon a large staff of engineers and these difficulties involved the place and attitude of these men in their relations with others of the personnel.

The study then necessarily involved the discovery and description of the principal attitudes of the management and employees of the company. But it also demanded that these attitudes be referred to some practical area of organization in which management could act. The necessity for action resulted, thus, in a demand that attitudes be studied not for themselves but for the underlying conditions of human relationship which determined them.

METHODS OF OBTAINING INFORMATION

Two kinds of evidence were used. These were personal interviews with employees and managers of the company and several simple questionnaires. The questionnaires were used, only to obtain as objective records as possible of the contacts asked about or the attitudes sounded out. The interviews were used *only* to get as untrammeled and spontaneous a flow of personal reactions and personal experience as possible from the persons interviewed.

Thus the interviews were not made with an idea of finding anything "wrong" so that it could be changed into something more nearly "right". We carried out the interviews to get each person to describe the happenings of his life in the company as he saw them. These happenings were, of course, expressed in language common to the personnel of the company. The people we talked with used certain common terms, like "engineer", "democratic control", "authority", "function", and so on. We wanted to know what these terms referred to in the past experience of the persons making use of them. We wanted to know the emotional coloring each person gave these common terms and the reason each colored them as he did.

At the same time, we had to have some objective method of determining what the personal situation of each person was. Only with some objective tool could we get the picture to which the people who talked to us referred. We had to have it in order to explain the sentiments they expressed to us about the situations they found themselves in.

To get at this picture, we used two methods.

The first was a questionnaire about personal contacts at work. The purpose behind it can be mentioned briefly here. It was designed to give us as unemotional as possible, and as reliable as practical, an estimate of day-to-day contacts in the conduct of the company's business. Here again we had no standard of how much or how little personal contact there should be. We were interested merely in what the actual situation was.

The second of the two objective methods of getting a picture of the actual situation of day-to-day activity was to analyze the incidents and events described to us in the interviews. This method will be described in full later.

It goes without saying that our picture of the human relations within the company is limited by the evidence out of which we built it. It is derived from two questionnaires and a series of interviews. We can report only on what we got from the persons who told us of themselves. We worked almost entirely among the members of the engineering departments of the company: the design, sales, and commercial departments, and executives. We did not attempt to study the office staff, production control personnel, drafting room personnel, and production foremen and workers. Lack of time for the work prevented our extending our inquiry to these men. Consequently, we do not report on them one way or another.

The concern in question is a company engaged in the design and manufacture of measuring

instruments for the electrical industries. It has only about 500 employees all told, but it is distinguished by the fact that it combines with its manufacturing organization a much larger than usual engineering staff. These engineers are many of them specialists engaged in inventing and designing new instruments in the field. The new instruments are usually sold direct to the customer and are often specially built and designed for customers in small lots. To meet the demands of such a clientele the company carries on research continuously. It makes it its policy to jump into new fields of electrical design when they open up and to discard old lines of design as soon as competition appears. In this way it keeps ahead of any competition and is able to reserve a quite profitable area of business opportunity for itself.

Naturally the relations between the highly skilled research engineering staff such a business policy requires and the rest of the organization represents a particularly delicate problem of personnel - and one in which the enlistment of the proper attitudes and sentiments, which business calls morale, is of vital concern to the company. Like all specialists, these men need a congenial atmosphere for their best work. They need a smooth and satisfying articulation with the rest of the organization if they are not to be distracted from concentration upon their research and designing. As most of the company's continued success in its field of business depends upon the engineer's technical mastery and upon his ability to anticipate developments in the most intricate electrical instruments, the matter is of utmost importance to the company.

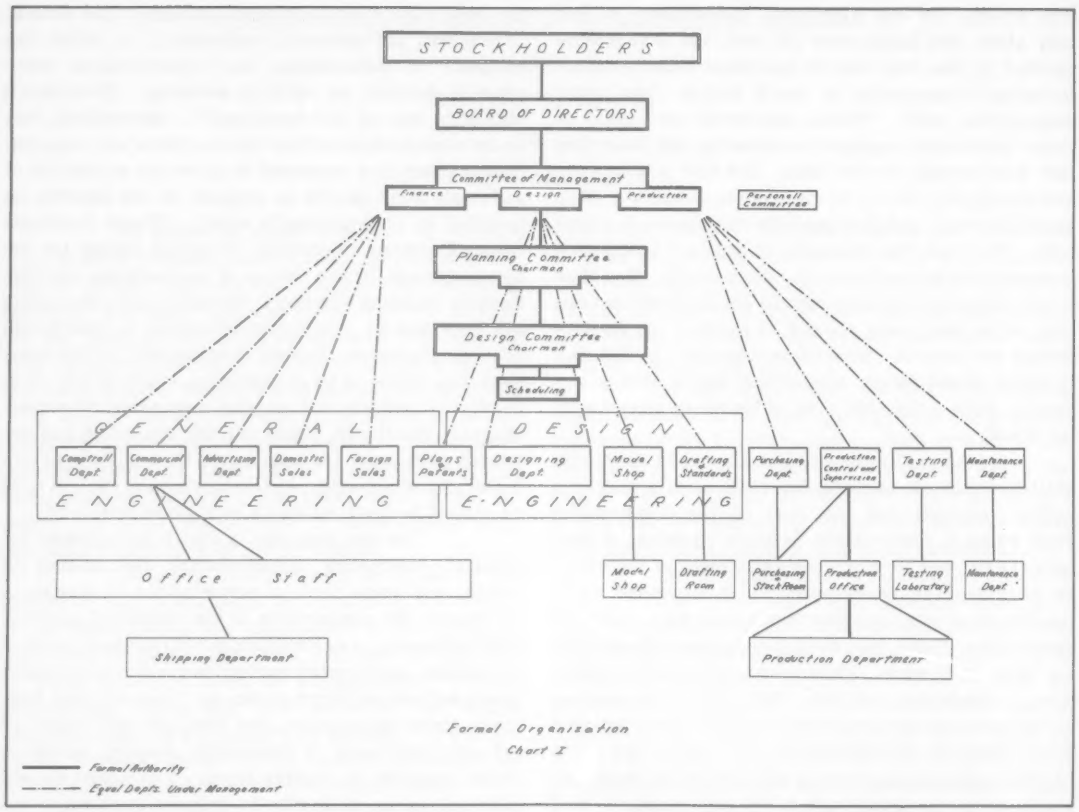
It was the more so in that many of the complaints and difficulties seemed to spring up out of dissatisfaction with certain features of the organization of the company. That this was so was surprising, from the management's point of view at least, as the company prided itself on a most democratic kind of organization, and had the reputation of being a kind of engineer's paradise, as an outfit run "by, for and of" the engineer.

The formal organization of the company, which gave rise to such expectations of contentment among the personnel, was rather unique among industrial concerns.

This formal organization was, officially, kept at a minimum. The company prided itself on being fluid and adaptable to its rapidly changing circumstances. It had grown from quite small beginnings very rapidly, and management believed that the best policy lay in retaining simple, fluid forms. There was no "personal authority", in which the statuses of subordinate and superordinate were sharply defined, so usual in industry. Everyone's authority was to be "functional": determined, that is, by what one does rather than to whom one reports. Each person was supposed to grow into a position of authority over others in respect to the function he fulfilled in the company's work. These functions were of course impossible to define rigidly for the company must, by the nature of its business, be continually meeting changing demands and fluctuating markets and be ready at short notice to launch into new developments. Indeed, it is boasted in the company that there is no organization chart at all. It is an official attitude that "a good man needs no supervision." Similarly, since all the executive and research personnel are engineers, they all belong to a fraternity of experts. In this fraternity each man is or should be final authority in his own specialty.

Yet the company is also a full-fledged industrial enterprize manufacturing and selling its goods, and some form of organization is necessary to secure the cooperation of the individual experts. For that reason, a certain number of routines, rules of procedure, and regulations for the conduct of company business have perforce grown up. Departments have made their appearance, but they are still felt to be entirely functional in character, merely grouping those engaged in similar work. The actual necessary minimum authority to enforce such rules and to achieve co-ordination of effort is entrusted to a system of committees. (See Figure 1). These are representative in character, being manned by representatives of the various departments. They too are conceived as fluid and open to future changes and growth. Personal authority, involving the rights of one person over another in hiring, firing, and adjusting pay is embodied in another committee, made up of the members of the board of management, who are also the major stockholders owning the company. Nevertheless, nearly all of the executive and research personnel are also stockholders.

The committees of importance were as follows: The committee of management, to be henceforward called the management, made up of the four major stockholders, who were also the president, the treasurer, the vice-president in charge of the factory, and another. The president, Mr. 1, was also formally responsible for research, as the superior officer of the Design engineers, as those specifically engaged on research and designing of new instruments



Formal Organization
Chart I

were called. The treasurer was in charge of the so-called Department of General Engineering, which included all those in an executive capacity in the office not actively engaged in research. The vice-president was in charge of production and the shop.

Under the committee of management, which was identical in membership with the personnel committee, came the Planning Committee, of which one of the engineers engaged in research was chairman, but upon which the general engineering department, sales and advertising, was represented as well. The planning committee's function was to draw up plans for future instrument development, and to make them ready for design and manufacture.

The next and last committee of the formal organization of the company was the Design committee, which was under the chairmanship of Mr. 5, an engineer in charge of foreign sales, one of the general engineering department executives. Others were a representative of the research personnel, the president, who was himself a research engineer, and some others. The function of the design committee was to co-ordinate the work of the research designers, the drafting room personnel, and the production shop, so that the flow of work from drawing up plans for a new instrument through its design and drafting to its ultimate manufacture, testing, and shipment, should be carried out with a maximum of dispatch and a minimum of waste effort.

It was the Design Committee that served as chief target for the complaints of the engineering staff. A detailed report of the attitudes of the personnel showed that as regards the Design Committee, there was a feeling that freedom from too detailed supervision had not been attained in the company, that the influence of the sales departments was too great, and that in general "democratic" control was not a reality in the company.

The problem could, therefore, be stated as one of determining what the underlying organizational

factors were which were responsible for these criticisms, and which indicated that the morale of the engineering staff was low. Our procedure involved two stages, 1) the description of the existing opinion in the engineering group, and 2) the analysis of the system of relations making up the organizational structure in order to see whether the source of these opinions could be located within it.

DESCRIPTION OF EXISTENT OPINION

This section represents an attempt to present in systematic fashion the opinions, attitudes, and beliefs of the group about this formal structure of the company, as these were expressed in discussion with the investigators and presented in the interviews.* The accuracy with which these opinions are reported obviously depends on the interpretations which we have placed upon the comments of the individuals interviewed. Since we are "outsiders" with no personal axes to grind, and since we have consistently maintained an attitude of curiosity concerning the nature of the existent opinions apart from any consideration of the merit of those opinions, sources of error in interpretation have been minimized although certainly not eliminated.

In this section there will be no discussion of the correctness or incorrectness of the attitudes and opinions expressed. The problem is to state as accurately as possible what these individuals believe, and what their attitudes are toward certain issues.

For convenience, the material to be presented has been organized under three major headings: (1) the organization of the company, (2) the engineering staff, (3) the design committee.

1. Opinions About Company Organization

(a) Informality

The attitudes of the group with respect to the vagueness of lines of authority showed considerable variation. Some people were opposed to it. They stressed the possibilities for contradictory orders and for confusion. Others pointed to the insecurity inherent in these conditions. Most people, they said, want to have someone whose advice they can take without fear that that advice will be later over-ruled. The engineers were often uncertain of the work they were doing because, although some given individual might have authorized it, someone else might at any time have contradicted that authorization. (This point will be discussed at greater length in connection with the Design Committee).

Yet a larger number of people favored this aspect of the existent situation than opposed it. Those who favored it felt that the informality increased the ease with which change could be instituted, and that it promoted consultation and discussion.

(b) Supervision

A second and closely related problem in connection with the general organization of the company centers around a phrase that was often used: "The competent man needs no supervision". It was the belief of a number of people that this phrase was expressive of an ideal, but that either it was not carried out in practice or there were no competent men in the organization. There are several aspects of this problem. The first concerns the extent to which individuals are able to carry out their ideas without interference. People discussing this problem talked somewhat in the following fashion: "Although it may be true that the competent man needs no supervision, it is obvious that no individual is completely competent in everything. It follows that that idea applied to that area where the individual is demonstrably competent. But, in practice, he is not given freedom to make decisions even within that area. There is little consistency with respect to the way his decisions are treated. A relatively major decision may be carried out without interference, and a minor one over-ruled. A decision with respect to the design of an instrument may pass today without notice, but a decision of a very similar sort tomorrow may be violently criticized. One will be told in private to carry out a given course of action and that course of action will be criticized or even vetoed in public".**

This comment that the executives often failed to back an individual up in carrying out a course of action which they had known about and at

* In order to protect the anonymity of members of this group, no attempt has been made to present the opinions of a single individual when these differ markedly from opinions expressed by others in the group.

**Quotation marks do not indicate direct quotation, but paraphrasing of the remarks of several different people.

least tacitly approved previously was a frequent one. It was said that the lack of clear-cut lines of authority should have meant relatively little supervisory discipline - but what it did mean in practice was inconsistent and contradictory discipline.

It was thought by some members of the group that these inconsistencies arose particularly because of the unwillingness of the directors to become involved in unpleasant situations. Rather than arouse an individual's antagonism or hurt his feelings, the directors would appear to agree with him in private conversation but they would take indirect steps to prevent him from carrying out the very ideas they appeared to approve. An example mentioned by quite a number of people was to the effect that the directors are said to have declared they would not tell a man if they thought he was doing his work poorly, or making an unsatisfactory adjustment to his job or to his associates. Nevertheless, said these people, the directors would not hesitate to criticize such a man to others. The result is that the man was encouraged by the directors to believe that he was doing well, but he was continually interfered with in the daily carrying out of his work in the directors criticizing him to others.

Several of the group believed that the ideal "the competent man needs no supervision" was really reversed in practice. It was, they said, the least competent man who got the least supervision. Several men, they believed, have proved their incompetence in more than one job in the company. Yet instead of being supervised more stringently, they had been given more and more responsibility and less and less supervision in each change of job.

(c) Democracy vs. Autocracy

One other point connected with the organization of the company came in for a great deal of comment and discussion. The question was whether the directors intended the company to run along democratic lines or along autocratic ones. There were several points of view expressed. There were those who believed that it was a genuine desire of management that the company be democratically operated, with the employees - and particularly the stockholder-employees, determining policies and the directors acting merely to carry out the wishes of the majority.

Within the group who held this opinion were two sub-groups. Those who thought the directors were effectively carrying out this philosophy, and those who thought that, in spite of their genuine desire to carry it out, autocratic methods prevailed in practice.

There were those who believed that the directors wished to create the impression that the company was run in a democratic fashion, but had no intention of relinquishing autocratic control. The people who expressed this opinion frequently commented that it was not particularly important to them whether the company was autocratically or democratically run, but that they wish there might be a frank and open avowal of one or the other philosophy of management.

Finally, there were those who believed that the directors had no intention of democratic operation of the company and no intention of creating the impression that it was so operated. This group was small, and mostly limited to the directors themselves and to some of their immediate subordinates.

2. Opinions About the Engineers

This section will be primarily concerned with the attitudes and opinions of management about the research and design engineers, and with those of the engineers about themselves. The company's executives realized that the morale of their engineering group was a matter of vital concern. As a result of this realization there were many ideas current about the engineers.

OPINIONS OF MANAGEMENT

The comment that the research engineer is a "prima donna" was usually made with a smile, but it was made so frequently, and elaborated so thoroughly that it was obviously a rather general and firmly held opinion in the management.

The elaborations reveal that "prima donna" meant many different things to different people, but a certain number of characteristics were thought of as universal among the engineers: they were "rugged individualists". Their major concern was with their own individual positions in the company, with the particular instrument they happened to be designing, with matters of minor company policy which might affect their individual freedom of action. They had little concern with the welfare of the organization as a whole. Such traits were frowned on by some, noted with approval by others.

Furthermore, the engineers were temperamental. Almost any minor annoyance could reduce their production efficiency to a minimum. When they did not have their own way, they spent considerable time looking for things to "crab" about. Since, obviously, there are always minor annoyances, the engineering group was continually creating teapot tempests over matters of little general importance.

Also, they were, it was said, unaware of the sales and financial problems of the company. They were uninterested in the needs of the potential customer, and unwilling to recognize his importance in determining matters of instrument design. They were far more interested in the theoretical aspects of their work than in the practical consequences. As a result (and this was related to the point about judgment made above) they might spend several months on some minor aspect of the design of an instrument that could be of no importance to a customer. Because of their interest in theoretical matters, they often disliked the drudgery of the last phases of instrument design. Once having solved their theoretical problems, they want to lay the project aside and start something new and tended to skimp the task of getting an instrument ready for the production staff.

OPINIONS OF THE ENGINEERS

The opinions of the engineers about themselves did not coincide with the picture presented above. In general, they admitted to being individualists, but not to the extent indicated. They were concerned, they said, with matters of broad company policy, largely, if not entirely, apart from the immediate impact of these policies on themselves. They spent much time discussing each other's instruments and problems, thus demonstrating interests beyond the instruments of their own design.

The engineers did not feel that they were temperamental. The fact that they discussed issues among themselves, and that they were critical of company policies, was, they said, due primarily to the encouragement of criticism offered by the way the company was run. Criticism was requested, encouraged; new policies were frequently tried out. Since it was to their interests to have a voice in these matters, they often argued them out among themselves at length. These were not "teapot tempests"; they were evidences of genuine interest in the affairs of the company at large.

They were vitally concerned, the engineers said, with the sales and financial problems of the company, but they did resent what they considered to be incompetent criticism. The customer might well be permitted to have his way generally - in fact, he should be encouraged to say what he wanted. But only the engineer is expert in the design field and only he is competent to select the specific means of meeting a customer's needs. Only he can decide whether a customer's suggestions are practical, whether they are important to the operation of the instrument, whether changes proposed by a customer involve more work than they warrant, and so forth. They argued that they were not often enough given the opportunity to present their reasons for wanting to design an instrument in a particular way. Thus, they say, their own criticisms of customer and sales department proposals are merely resented, not understood.

CONCERNING MORALE

Along with the views of management about the engineers, and those of the engineers about themselves, there were opinions about the morale of the engineers. This is, of course, a closely related topic, so we include it here.

On the whole, both management and engineers were in agreement in calling the morale of the engineers better than fair, poorer than excellent. Certain ideas for the improvement of morale were expressed in the course of the interviews. Many of these related to the Design Committee. Most prominent among the remainder were ideas having to do with the attainment of promotion, increased responsibility, and so forth. It was the conviction of a number of people that the design engineer was often disappointed and therefore unnecessarily critical after a year or two in the company.

It was suggested that the reasons for this state of mind were to be found in the way he was treated immediately after he was hired. In the first place, said these people, he was promised too much when he was hired. The company already had a reputation among outsiders of being an engineers' "Utopia", but the manner in which the potentialities of his job were outlined to the engineer when he was hired gave him an even more exaggerated set of expectations concerning the future. It was impossible for reality to measure up to anticipation in most cases. Those who held this belief about the treatment of the newly hired engineer felt that if he were promised less than he would be likely to achieve, the consequences would have been very different.

It was suggested that the new engineer was given too many privileges too rapidly. After a very few months, therefore, the engineer had achieved a relatively sizable number of privileges, which were unlikely to increase until he had demonstrated his ability to assume responsibilities greater than those of an engineer. Administrative opportunities were necessarily somewhat limited by the small size of the company and its relatively slow rate of

expansion in recent times. If the privileges and responsibilities granted to the engineer were to come along more slowly, it was said, there would be more to look forward to. Consequently, they said, the transition from design engineer to positions having somewhat more authority would not be so abrupt - nor would the difference between these levels appear so great.

PROMOTION

By and large, however, the engineers themselves did not appear to be greatly concerned with the problem of promotion in the ordinary sense of that term. They enjoyed their work, they said, and few of them devoted much time to worrying about becoming executives. However, some of them did seem to feel that achievement in research and instrument design should carry more recognition within the organization, and that with the passing of time and the demonstration of ability, there should perhaps be an opportunity to have more of a voice in the determination of company policies than was then the case.

SALARY, etc.

It is important to note that not one of the group interviewed had a complaint to make concerning the financial returns they received for their work. On the contrary, many of them spontaneously mentioned with favor the salary arrangements, the bonus, and other financial policies of the company.

3. The Design Committee

In the early stages of the investigation, it became apparent that there was one set of issues concerning which nearly every individual in the group had rather decided opinions. Those issues revolved around the Design Committee - its function, its personnel, its modes of operation - and around the controversy whether committee or personal supervision of the process of instrument design should prevail.

COMMITTEE vs. CHIEF ENGINEER

It was obvious to everyone that somewhere in the organization there must be either an individual or a group with responsibility to assign the tasks of designing particular instruments to the appropriate engineers, to outline the specifications of the instruments, to indicate the limits of time and money for research on new instruments and to keep track of the progress of projects in the various stages of design.

Opinion in the group favored the committee form of supervision of design by a slight majority:

> It was felt that no single individual could be found who was sufficiently competent in all the areas of engineering that must inevitably be under consideration from time to time.

The judgments of a group which comprised experts from several of these areas were felt to be potentially superior to those of any single man. It was also suggested that a chief engineer, if he were to be successful, would have to possess a most unusual combination of technical abilities and personal qualities. Several people were insistent that there was no such man in the employ of the company - and that one would be extremely difficult to find elsewhere. It was also pointed out that since the engineers had gone for several years without a chief engineer, the difficulty of the task faced by such a man would be increased several times over.

Another advantage of the committee form of supervision which was frequently mentioned was this:

> A committee can change its mind without "loss of face" more easily than a single individual can.

This point was also cited by some as a disadvantage of the committee form of supervision. Because a committee can change its mind more easily than an individual, the tendency was to do so too frequently. The resultant uncertainties of the engineer were felt to be bad for morale.

It was suggested that:

> The impersonality of a committee makes for a more objective attitude toward its decisions.

It is more difficult to establish emotional antagonism toward a committee than toward a single individual. Again, the opposite point of view was stressed by some: because a committee is impersonal it is impossible to develop the same loyalty toward it that one may toward a particular individual.

A difficulty mentioned in connection with the committee form of a supervision was this:

> The individuals comprising the committee may react very differently when approached individually than they do in the committee.

Several examples were cited to illustrate this point. It was said that in certain cases every member of the committee had given his approval individually of a particular course of action. Nevertheless, the committee, as a whole, disapproved the same course of action.

To the question, "Do you believe that some other form of direction of the engineer should be substituted for a design committee?", the following distribution of opinion was obtained from the group:

Definitely yes	6%
Yes	25%
Undecided	13%
No	31%
Definitely no	25%

While there is considerable spread to these opinions, it is apparent that the "center of gravity" was on the side of the issue favorable to the committee form of supervision. The design engineers, as a group, were slightly more favorable to the committee form of supervision than the group as a whole. The figures from the table represent the opinions of the management groups in addition to the engineers.

PERSONNEL OF THE COMMITTEE

Assuming, then, that group opinion was slightly in favor of a committee form of supervision, the next problem concerns the membership of that committee. One issue here concerned the proportion of representation on the committee from sales and from design engineering.

> It is the general belief of the engineers that the sales group dominates the present committee.

There was a division of opinion concerning the merits of sales domination. Some engineers felt that sales should dominate, since it was the demands of the customer that must inevitably dictate what instruments are made by the company, and to a considerable extent also the specifications of those instruments. Since the sales groups were in most direct contact with the customer, they should have the balance of power on the committee.

Others felt that while it was perfectly true that customer needs were determining matters, nevertheless, the sales group should not hold the balance of power on the committee. Sales people, it was argued, frequently made decisions without adequate knowledge of technical problems. Sales should be heavily represented upon the Planning Committee, but the Design Committee should be more definitely concerned with technical minutiae. The advice of sales might be urgently needed by the Design Committee, but the balance of power in the final decisions of the committee should rest with those most technically competent. While this latter point of view was more frequent among the engineers than was the belief that sales should dominate the committee, there was no one who suggested that sales should not be represented on the committee.

There was a rather general belief that:

> It would be an advantage to have one more engineering representative on the committee (either by supplanting one of the present non-engineering members, or by increasing the size of the committee).

A number of alternatives were suggested. The most favored was to provide an extra member to serve for a year and then to be replaced, to be chosen from the engineering group. Continuity in the committee could thus be maintained, but through the rotation of extra members many of the engineering group could successively come to learn about company problems and to gain the prestige of membership in the committee. It was argued that the plan would increase technical competence of the committee, because the succession of experts in special areas would increase familiarity among the permanent committee members with the nuances of their specialities.

It was also argued that this system would make for a more direct liaison between the committee and the design engineers. The design engineers could feel that their opinions carried more weight with the committee. There did not seem to be any particularly strong opinions as to the methods of selecting such an extra rotating member. Whether this individual were selected by the engineers or selected by the directors or by the committee did not seem to be a *particularly* important matter.

When one combines the issues embodied in this discussion into one single question, the distribution of opinion is presented below. The question was, "Do you believe that the design committee should have a different personnel?"

Definitely yes	25%
Yes	38%
Undecided	18%
No	18%
Definitely no	0%

The design engineers were slightly more in favor of a different personnel than were any others. It must be remembered that some people wanted one kind of change and some another. Although a majority of the company employees interviewed favored change, they did not all favor the same change.

"TACTICS" OF THE COMMITTEE

Aside from the problem of the broad function of supervision of design, and aside from the question of the composition of the committee, there

were many opinions concerning the *manner* in which the committee fulfilled its functions. Several people who believed a committee superior to a chief engineer, and who believed that the personnel of the incumbent committee was not seriously in need of change, nevertheless believed that the "tactics" of the committee should be modified if it was to function most effectively. It is with these opinions that we shall be concerned in the following pages.

The most frequent criticism heard in this vein was this:

> Supervision of the design engineer by the committee is unnecessarily detailed.

Matters which were really unimportant to the committee were "legislated" with annoying consequences for the engineer. It is as though an editor when criticizing an article for publication edited the "style" of the author rather than editing gross errors in the form of the argument or in the organization of the material. While it was said by some of the committee members that the committee rarely dictated to the engineer on technical matters, it is nevertheless the belief of several of the engineers that the committee did so dictate very frequently. Such detailed specification, it was said, wasted the time of the committee, and it gave the engineer a feeling that his own judgment amounted to nothing. This point was frequently mentioned as evidence that the phrase "the competent man needs no supervision" is rarely applied in practice to the engineer.

Some committee members pointed out in connection that the degree of supervision varied considerably from engineer to engineer. These individuals felt that some engineers needed a great deal of supervision, others required almost none.

A second point with respect to design committee "tactics" was frequently made:

> The contact between the design committee and the engineering staff was too slight, too infrequent, ineffective.

A number of instances and experiences were cited to demonstrate that assignments by the committee were often not clearly understood by the engineer. This was said to be due sometimes to the vagueness of the assignment, and sometimes to the fact that the statements of different members of the committee regarding an assignment were contradictory. It was said that the committee sometimes made decisions without adequate knowledge, and that they were subsequently forced to reverse these decisions, when the engineer involved had been in possession of the requisite information all the time.

It seemed to be generally felt by the engineers that the committee should more often have had the advice of the engineer whose project was under discussion, and that the engineer should have more frequently been given the opportunity to rebut committee decisions in person before they became final.

Some members of the group felt that the committee should be better informed concerning the specific problems faced by the engineer in carrying out assignments; others stressed the fact that the engineers should be better informed concerning the nature of the problems faced by the committee (particularly with respect to the necessity for the sales approach to problems of design).

Two specific questions asked of the whole group helped to shed light on the distribution of opinion upon these issues: "Do you believe that the design committee as it is functioning at present provides a satisfactory way of directing the work of the engineer?"

Completely satisfactory	6%
Reasonably satisfactory	50%
Barely satisfactory	18%
Somewhat unsatisfactory	6%
Highly unsatisfactory	18%

None of the design engineers felt that the committee was "Completely satisfactory". Other than this the opinion among design engineers was essentially the same among others of the company. "Aside from its personnel, do you believe that the design committee should alter its present methods of directing the engineers?"

Definitely yes	13%
Yes	18%
Undecided	36%
No	31%
Definitely no	0%

In this instance the design engineers were rather more in favor of change than the rest of the group. In closing this description of existent attitudes and opinions a general comment is in order.

These opinions and criticisms were not the furious outbursts of tremendously frustrated people.

> Most of the individuals in the group are quite definite that they would rather work for this company than anywhere else they can think of.

They were quite sure, however, that there could be improvements in the way in which the company was then operated, and since they were vitally interested in the success of the company, they were vocal in

their criticisms of it. It appeared to the investigators that, on the whole, the group had much the same attitude toward the organization of the company and its problems as they would have had toward the problem of removing the "bugs" from a new instrument. If there was a good deal more feeling involved in the former case, that is understandable. One's reaction to people is rarely as objective as one's reaction to things.

THE STRUCTURE OF HABITUAL RELATIONS

In the light of such lack of unanimity and such difficulty over supervision and in particular the design committee engaged in co-ordination of the engineers' work with the rest of the company, the central question for research soon came to the fore.

What did these attitudes and expressions of sentiments mean? What could we relate them to? What was there in the sentiments of the persons involved that we could trace in orderly fashion to the situation these persons take part in?

To get an answer meant seeking for material out of which to derive an objective statement of the social interaction of every kind actually taking place among the employees in the life and work of the company. The interviews had to be treated as statements of the social situation and referred to the place of the interviewees in such actual social interaction.

These people were talking in terms of a situation which was not the formal picture of company organization to which most of their words ostensibly referred.

What was this and how should we get at it?

1. Method

To get a picture of the structure of habitual, interpersonal relations in which the engineers and executive employees of the company have their places, we used two chief methods. With both of them we tried to get an understanding of the day-to-day contacts with other persons each member of the company experiences. By submitting these to a uniform process of comparison and combination, we were in a position to build up a structure of objectively defined relations out of the evidence we got. These uniformly-described relations and the progressive changes within them were taken to represent the *habitual* structure of the company as it operated from day to day and week to week. It was, of course, distinct from, but complementary to, the *formal organization* already discussed. The two were different pictures of the human relations of the company in its conduct of its business. But without an understanding of both, we believe the verbal statements of the engineers of the company cannot be understood.

The first of the methods used to build up a picture of the system of habitual relations in the company was an analysis of the incidents recited in the interviews. The second method was an analysis of a questionnaire on personal contacts.

The interviews were subjected to an objective process of analysis designed to reduce the incidents described by the interviewees to uniform and measurable terms. This analysis was undertaken without regard to the emotional coloring (sometimes strong) given to the incident by the person who recited it. For our purpose the incidents were treated, once their emotional coloring was removed, as factual. Whether or not what the reciter of the incident said took place actually did so as he described it we do not know and cannot judge. We took the incidents we were given as data, and subjected them all alike to the same process.

The incidents so treated numbered 268, and involved 39 persons, many of them, of course, over and over again. They date from the time of an initial reorganization in 1932 to the date of this study, December 1939. Those taking place in more recent times were rather more frequent than those taking place several years before but not overwhelmingly so.

Let us make clear what these incidents were. We want to insist once more that we did not choose the incidents which the interviewees recited to us. They were the events which the people we talked with used of their own accord to illustrate their personal situation. They were presented to us by these people as examples of happenings in the company affecting themselves or seeming significant to them. We did not suggest or prompt them. They were elicited by us, if at all, only in the following way: when we interviewed a man we requested him whenever he could to illustrate a general statement concretely, or to tell us what made him feel as he says he did, or to tell us how something to which he referred and attached significance took place. Every interviewee except one did in fact recite such incidents. Most of them recited many incidents without any suggestion from us at all. Their doing so confirms universal interviewing experience. Most people think in concrete terms, and given the opportunity will recite in detail the personal experience out of which their attitude and feelings have come.

These incidents, then, were treated only for uniformities in the human relations existing in the company. They were not evaluated in any way. We did not hold the behavior of the persons described in them up to any standard, not even that of factual veracity. The incidents were treated as follows:

The actual persons involved in the action of the incident described were set down. If the interviewee talked of an action of "management" or "engineering" or the "shop", care was taken both in the interview and afterwards to make certain just what person he was describing. If the speaker referred to groups or bodies, such as committees and departments, the same procedure was followed.*

Once the actual actors were determined in an incident, the part each one of them played was separated out. The incident was broken down into the parts played by each of the persons who participated. Again, we did not go beyond the evidence of the recital given us. Since we were interested in the action of one person on others, we did not distinguish between official and unofficial actions, or between formal and extraformal procedures, or between actions in accord with announced managerial policy and actions not in such accord, or between professional and non-professional activities, or between "business" and "social" activities. For the purposes of this analysis it was necessary not to make such distinctions. As far as this analysis was concerned, orders, recommendations, suggestions, routines, complaints, and protests, and so forth, must be treated all alike. We had to have a uniform, objective basis of measurement and comparison of the human relations involved in the company. To put all of them on such a basis demanded we ignore differences of kind.

Having thus broken down the incidents into the roles of the individual actors in them, we next established the sequence of action between the two or more actors. This again was an objective, uniform reduction to which we could submit every incident of every kind. By determining the sequence in which action took place between each pair of individual actors we had a universal standard of comparison for every relationship between persons in the company. We now had a means by which we could count, measure, compare, and combine the personal relationships of the company revealed in interview incidents.

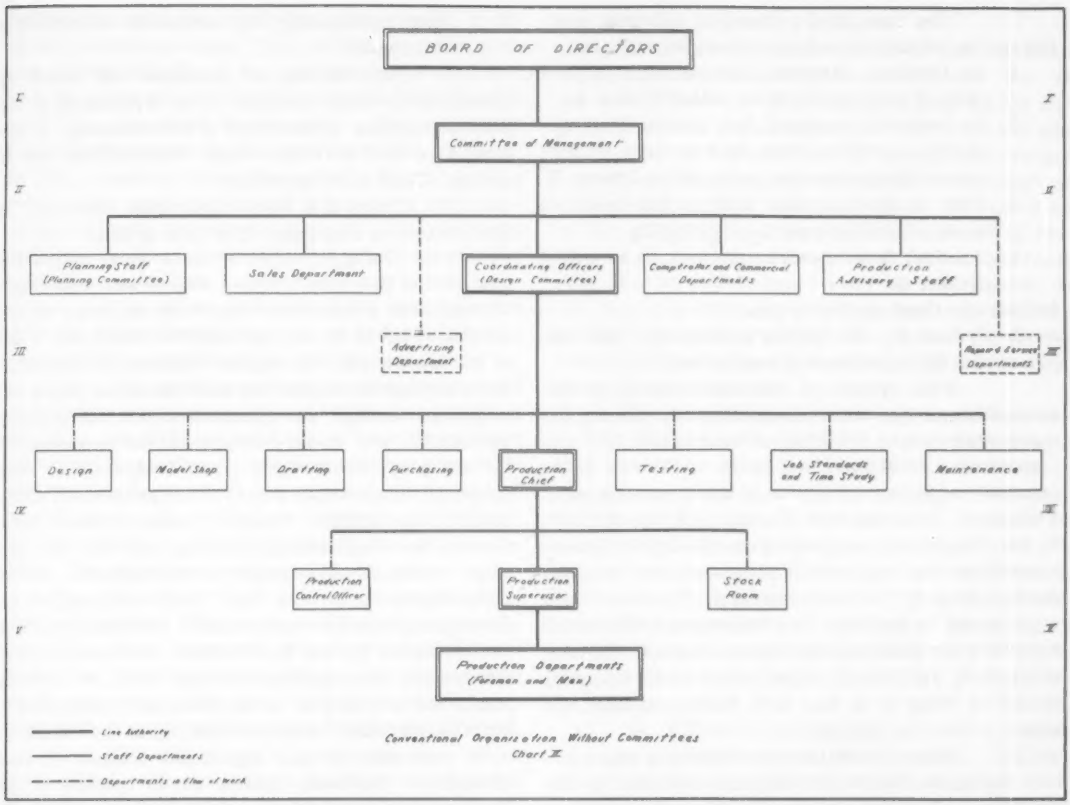
This combination of uniformly stated relations into subsidiary systems of relations led us to further combine these systems into a continuous structure. The point of interest is the structure so built up and what it indicates about the position of the individuals in it.

This continuous structure, then, indicates the recurrent courses of events among the persons of the company. It follows activity through the company from the initiation of an event by the first actor described to its termination in the activity of the last actor described. Some happenings take one course among the persons of the company; others take other courses. But the recurrent durable, and therefore predictable, courses are pretty easily recognizable and of pretty high frequency of occurance. The structure built up by the procedure described represents the constancies of these courses of activity. It is what we refer to as the habitual structure of the company.

The second method by which the same result was worked out was the use of a contact questionnaire. It was simply a request to each man to indicate the precise number of contacts of all kinds and their relative length he had had with them in the company during the past week. We do not give the figures here, but they correspond quite well with the evidence of the interviews. Two independent methods thus gave the same picture of human relations in the company. Each has acted as a check on the other.

Consequently, when we now turn to that picture, it is well to remember that it was the people we interviewed who themselves described it to us piece by piece through the incidents they told us of. And they gave us the outline of it unwittingly again when they reported their personal contacts over a stated period.

* The theoretical justification for such a procedure is plain enough. Human relations involve action between persons, of one person on another, whatever the formal, institutional context may be. Groups can act only through persons. Even though action is carried out by committees, the agreement reached in committee is made by activity between an individual proposer, an individual seconder, and individual voters. The action, to be carried out, must be executed by one or more persons who influence still others. This is a matter of verifiable observation, not in any way an evaluation of the efficiency of action by committee.



Conventional Organization Without Committees
Chart II

Let us see what that structure tells us about the company and its members.

2. The Structure Itself

The habitual structure of the company shows several points of difference from the generally accepted (that is, formal) picture of its organization. Certain characteristic systems of relations stand out which are glossed over in the formal picture. That this should be the case implies no criticism. The habitual structure of personal relations by which the company's activity is carried out need not be completely represented in the formal procedures of the company. It is doubtful whether it ever could be wholly so. For many persons in the company it would be difficult if not impossible to form an adequate picture of the personal situation of every employee.

The over-all picture of this habitual structure is made up of several important parts. These parts are themselves systems of relations. There are four of them. To get the entire picture, it is necessary to understand them all. But the task should not be a difficult one. Persons in the company could immediately recognize the activities which are carried out in these systems of relations. We thus reported nothing new. We merely showed a new way of looking at the daily activity of the company and a new interpretation of what it meant for the persons taking part.

In the charts we have tried to put this over-all picture graphically. We think it will make the description we give easier if one follows it with these charts in mind. The legends explain pretty thoroughly, we believe, the conventions we have adopted in making the charts. Chart II gives a picture of the habitual structure of the company at the time of the study as it would look if (1) committees were left out of the picture and if (2) it had been charged by conventional makers of business administration organization charts. Chart III gives the same habitual structure in much greater detail and follows the then-existing personal relations.

The four chief systems of relations making up the habitual structure of the company are:

1. An habitual, personal, line authority in process of emergence, to be called System A.
2. An habitual, personal, but intermittent, authority surviving from former days, in process of disappearance, to be called System B.
3. Four newly-emergent staff-to-line relations to be called Systems C_1, C_2, C_3, C_4.
4. Habitual flow-of-work relations, to be called System D.

Let us take these up one by one.

1. System A. An habitual, personal, line authority in process of emergence.

This system of relations making an unacknowledged line authority had been developing for many years since the time of an original 1932 reorganization. It shows itself in the interviews in the constant repetition of events of the same sequence. This sequence begins with activity on the part of Mr. 2, the Treasurer, and runs down through the junior executives, the engineering personnel, and the production shop to the bench workers. There had been a progressive increase in the frequency with which activity in the company takes this sequence. Similar changes in the formal organization of the company tended to bring it in line with System A more and more.

Many incidents were recited in which action failing to follow this sequence resulted in difficulties or had to be rerouted. Several interviews recite incidents in which this sequence of activity has been circumvented and interfered with. But the further history of such incidents shows this sequence very soon re-established.

Most of the members of the company could recognize this line authority for what it is: the most frequent and characteristic sequence among personal relations which the daily activity of the company follows. But they could not, perhaps, accept our interpretation of it. Because this system of relations was still unacknowledged and personal reporting within it was not enforced by the formal regulations of the company, many persons would take a different view of it. By the same token, many incidents show that it was quite often challenged in the company. But, by the objective standards we have used, it clearly demonstrated itself to be what we name it: an unacknowledged line authority.

2. System B. An habitual, personal, but intermittent, authority surviving from former days and now in process of disappearance and only infrequently and somewhat irregularly exercised.

This system of relations was made up chiefly of the activity of Mr. 1, the President, in his direct relations with others in the company. It extended as well to those whom this activity put in action. Chart III illustrates it.

There are three significant features of this system of relations. The first is this:

(a) Being an older system once active but now falling into less frequent use, it was less regular and less predictable than other systems of relations. That is to say, the matters which Mr. 1 set in motion outside the regular channels of System A were neither so regular or so frequent as those set in motion through the channels of line authority in System A. Nor do they involve all the personnel of the company with roughly equal frequency. They habitually involve only a part of the personnel, principally the design, drafting, experimental shop forces, the engineering planning officer, and the other members of the board of management. But in many instances recited they involved a conflict or discrepancy with the more regular habitual sequence established in System A. We shall in a later section discuss the consequences of this fact: we merely point it out here as part of the necessary understanding of the personal relations existing in the company.

(b) The second significant feature of this system of relations, System B, is related to the first. It is this: this system of relations corresponds in many particulars with the formal organization of the company. The formal division of influence between Mr. 1, the President and Mr. 2, the Treasurer, is reflected in the fact that one part of the personnel - the engineers not in office positions - are participants in this intermittent system while the other part are not.

(c) The third significant feature of this system of relations (that is, System B) is this: communication from the lower levels of this system of relations to higher is very infrequent and very difficult. The incidents report only one successful instance. Contacts reported by persons in lower levels in this system with those above are very few.

The reason for this is structural. It is no personal criticism. Mr. 1, the President, on the one hand, and a design engineer, let us say, on the other hand, were separated by only one step in this system of relations, System B. The fact corresponds with the formal belief in the "equality of engineers in the company". But when System A, the unacknow-

ledged line authority, is taken into account, a different picture emerges. For, in that case, the same two individuals, Mr. 1, as president of the company, and the engineer, as a person at the third level of authority, are three steps apart. Communication between persons so remote is difficult. The evidence, in fact, supports these two points. The interviews recite many more successful instances of communication through the unacknowledged line authority (System A) than through System B, the authority formally recognized.

The above statements, we think, need a thorough definition if they are to be understood. The difficulty lies with the notion of "communication".

For some persons 'communication" is merely the transmission of points of views, or wishes, or plans, or other suggestions of importance from one party to another. In that sense of the word the statements above about the relations of System B do not apply. A good many people do go to Mr. 1, the President, and get a sympathetic reception from him. The interviews recite many instances.

But many other persons mean something else by the word. They mean, not that they got a reception for their "communication" but that the person with whom they communicated *put what they brought to him into effect.* For them "effective communication" is followed by action of the kind they had in mind.

The difficulties of communication which are recited in the interviews are those which arise out of the second notion. To get the sympathetic ear of Mr. 1 is one thing; to get a suggestion made to him put into effect is another thing. "Effective communication" of the second kind has had to drop away before the emergence of System A. Many persons in the company did not seem to see the existence of this newly emerged line authority. They literally did not appreciate the fact that a suggestion made to Mr. 1 was not immediately turned into an action of line authority by him, but was instead suggested by him to others of the management group. They did not see that thereafter it was passed down the new line authority System A, and that in the process it might or might not be carried out as the original communicant planned it. We shall discuss such failures to realize the changes in the habitual structure of the company and their psychological effect somewhat later. We introduce it here to explain the state of the habitual relations of System B existing at the time of the study.

3. System C. Four newly-emergent staff-to-line relations taking the place of one former one no longer in existence.

There are several staff-to-line relations in the company today. There is evidence that at one time before the 1932 reorganization all the engineers acted in a staff capacity. They once had advisory roles, in the sense that proposals and recommendations submitted by them (often as a result of their direct contact with customers) were taken up by line authority and transmitted downward by line officers to their final completion. But such direct staff activity had dropped away by 1939 almost to the vanishing point. In its place, four new staff relations had emerged. They take place at the second level of System A, the unacknowledged line authority. These four are:

C_1. Long-time engineering plans and developments, transmission to line authority.

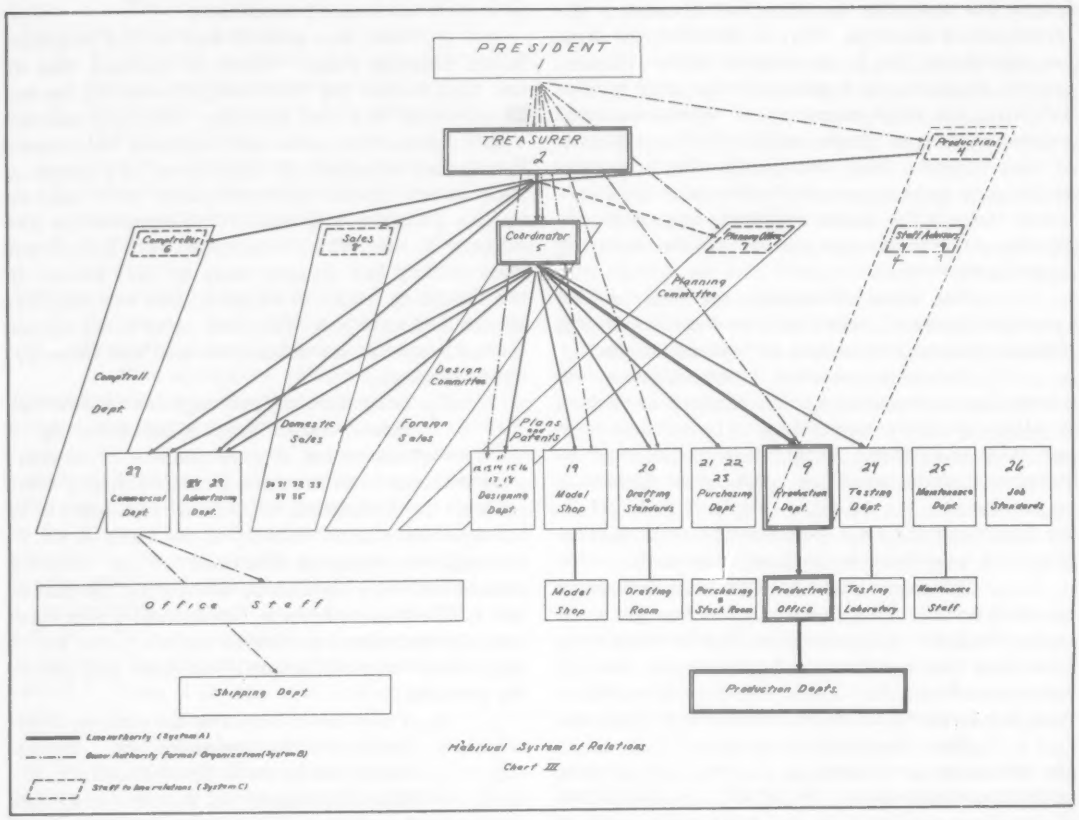
This series of relationships in the company had come to be formalized in the planning committee. In its habitual aspects, it had come to be concentrated almost entirely in the hands of Mr. 7, the engineer acting as Chairman of the Planning Committee, with occasional activity on the part of Mr. 1. The transmission to line authority then takes place between these gentlemen and Mr. 2 and Mr. 5. Mr. 7 thus functions habitually as chief staff officer for planning.

C_2. Financial development and control, transmission of staff developments, innovations, and forms to line authority.

This relationship had been one of gradual development over the preceding several years. Mr. 6, Assistant to the Treasurer, functioned habitually as staff officer in charge of finance, transmitting recommendations to line authority, System A. Because of the formal division of "engineering" into two divisions (that is, "general engineering" and "design engineering") and the formal designation of Mr. 2 as "Treasurer" of the company, this system of relations remained unacknowledged.

C_3. Sales orders and plans, transmission to line authority.

The relations between the sales personnel and the rest of the organization were somewhat indeterminate in form though the main outlines of development were clear. These relations were of two kinds, staff-to-line relationships on the second level of authority in System A, and relations involved in the flow of work at the third level of authority in System A. The relations between the sales department and the rest of the company were still in process of growth in 1939. Only very recently had the



Habitual System of Relations
Chart III

difference between the exercise of line authority in this department and its staff function as advisor to line authority been reflected in formal procedures. In the terms of the habitually recurrent sequences of events within the company revealed by the interviews the difference was clear. With the gradual crystallization of Mr. 5's line position, his former subordinates in "sales" had developed an internally organized department headed by a staff officer (Mr. 8) reporting in effect direct to the head of the line authority, (System A) Mr. 2. The result as shown in Chart III has been to make Mr. 8 co-ordinate with Mr. 5 and to put Mr. 8 in a staff position at the second level of authority in the company. Committee procedure, as in the design committee, had at last given partial formal recognition to this development.

C4. Production plans, costs, and needs, transmission to line authority.

The position of the production departments in the organization of the company called for special treatment because they had been the result of a combination of line and staff relationships of special and continuing development. But the discrepancy between the two had not had the same effect as in the case of the "engineering departments". The relative autonomy of the production departments had allowed them to develop a relatively stable and fixed organization. This organization had developed from within, and had had little interference either from System A or from presidential control System B. Change within the production departments had been possible because their relative position had remained unchanged during the shifts which had occurred in other parts of the company.

The needs and wishes of production personnel had had a channel of communication up the line of authority open to no other department. First, Mr. 4, the Vice-President, and then, to a lesser extent, Mr. 9, the Shop Manager, had been put into

positions combining autonomous local authority unchanged over a period of years with an advisory staff role toward management. From the first Mr. 4 had been on the committee of management and the board of directors. There the staff authority of an advisory kind which he exercised had full scope and functioned as a channel for transmission of recommendations to the head of line authority. This fact had, of course, tempered the authority of second-level line officers, System A, over the production departments and it had probably been the chief factor in their autonomy.

In 1939 the gradual retirement of Mr. 4 was placing Mr. 9, the Superintendent, in a similar place. Autonomous in his own sphere, he was nevertheless subject to line authority at the third level of authority, in System A. He was thus co-ordinate with most of the "engineers", to whom he was connected in turn in the relations of the flow of work. But this position was compensated for by the continuous development of a supplementary staff role, patterned on that exercised for years (and still exercised) by Mr. 4.

4. System D. Relations of the flow of work.

Formal procedures gradually did come to recognize the changes of the habitual relations in the company. But they were so long changing as to stand the way of recognition of the line authority, System A, over the whole flow of work from the designing of a planned instrument to its final tests and shipment. It was thus significant that Mr. 5, the Foreign Sales Engineer's most recent change of formal designation, made just at the time of the study, should have included the co-ordination of production itself among the "functions" of "engineering" in the company. The appointment marked the latest step in the emergence of the line authority, System A. It placed the flow of work under a central control.

Yet the relations of the flow of work in the company had remained relatively constant throughout the period described in the interviews. Only three major changes were referred to. But these were of great importance, and they must be looked at for their effect on the personal situation of the employees. The new formal designation of Mr. 5 as "co-ordinator" was only the last of them.

These three changes operated in a flow of work well recognized in the company and fully formalized in its organization into "functional departments". The flow ran from design, through the experimental shop, drafting, production purchase, production, testing, and shipping. Departments not involved in this flow of work were only: advertising, maintenance, and repair.

The horizontal dimension of all Charts plots this flow from left to right.

Many of the interviews deal with the changes introduced in the relations of the flow of work. Let us point out what they were here:

(1) The decreasing frequency of exercise of staff functions among the design engineers. This left them participation only in the contacts between themselves and the next departments in the flow of work.

(2) The placing of a step in organization between the design engineers and customers. This had a similar effect. But it also reversed the sequence of activity between the financial or sales personnel and the rest of the engineers. From that move forward "general engineering" (that is, sales in particular) personnel became the first point of contact with outsiders and the first step in the flow of work in the company. The design engineers became the second step. The new behavior required by this move figured in many incidents.

(3) The curtailment of individual authority among the engineers over the next departments in the flow of work such as drafting and the shop. This was a gradual development. It is the corollary of the emergence of the line authority, System A, co-ordinating design, drafting and production on an equal plane. Many incidents deal with it. Certain regulations, such as a prohibition against making design changes in the production shop, had gradually formalized the new situation.

THE TREND OF DEVELOPMENT

To understand the development of this structure of habitual relations so different from the formal procedure, let us go back with the help of the charts over its history. Since 1932, one could see in each new decision or incident a steady trend toward the emergence of the line authority, System A, and a correlated curtailment of the initiative of the engineers over others. If we define it so, it can be called a concomitant lowering of their status, at the same time a related growth of staff functions among the junior executives of the "general" or non-designing categories. The growth may well have been an inevitability.

In any event a short review of its growth might not be out of place. The various stages of

this growth were well marked in the interview. Furthermore, certain critical incidents were used again and again to illustrate the personal experience of the people we talked with. The fact that these were very often the same incidents, though told by each man with a different coloring and point of view, indicated that they were turning points in individual experience as well as in the organization.

The first stage was that during the time a beloved chief engineer, Mr. 10, was with the company before his dismissal in 1932. Nearly everyone used it as a starting point in his story. At the time there seems to have been a division of the company into three "functional departments". These were the engineering design, finance, and production. This tripartite division still survived, of course, in 1939 in the formal organization of the company into the "bailiwicks" of Mr. 1, Mr. 2, and Mr. 4.

But then, however, these "departments" were quite different. Messrs. Mr. 10, Mr. 2, and Mr. 4 were in fact subordinate to Mr. 1, as President, and Mr. 3, his associate, the then-owners. There was no clear-cut differentiation of engineering and financial functions. Mr. 10 and his engineers submitted recommendations for developments the company should undertake. Mr. 2 advised upon financial and sales matters. Mr. 4 advised upon shop needs. The necessary co-ordination was done through vote of a management committee under the presidency of Mr. 1. What line authority there was seems to have been transmitted from Mr. 1 through Mr. 4 to the shop where the process of manufacture took place. Design was thus a staff function among the engineers, each of whom acted in effect as a staff officer. They were thus at the time able to sign travel vouchers, make changes on designs through direct orders to bench workers, suggest plans for development, and otherwise act as co-ordinates in authority with other staff officers. Sales were not "functionalized" at first, the engineers were their own contact men. In a phrase, the company looked more like a group of professional associates than an industrial company. Much of the common folklore of the 1939 formal organization dated from this stage.

With the dismissal of Mr. 10 in the depression, however, a very clear trend of development emerged. We do not feel ourselves competent to judge why the change should have occurred. Our task is merely to point it out and to show its effect on individuals.

It is in this part of the story that many of the same events are repeated over and over again in the incidents of the interview. In sum they demonstrate a shift in the direction of a full-fledged industrial enterprise under financial control as a result of the great increase in customers and in the amount of time needed to deal with them. Such a shift would not be possible except at the expense of changing and altering the place of the engineer in the company. It is nobody's fault that that is so. That is what happened. The incidents described so often mark the process. They mark the stripping away of the engineer's staff position and the growth of other staff positions, contributing other plans to an emerging and centralizing line authority.

During this period the following changes were introduced. The sales link between customer and designer was put in. A sales force gradually came into being. Put between customer and the designer, it took up the first position in the flow of work. It estimated costs and budgeted development time. A system of rationalization of financial practice was introduced, and eventually a staff officer developed to direct it, exercising "functional" authority over the engineers and the shop.

A formal "Development Committee" was set up to outline engineering projects and co-ordinate them with financial and sales needs. Suggestions for development had now to come through this committee or from customers through sales and finance. The designers, the draftsmen, and the shop became subject all alike to this new co-ordinating authority. To meet financial expectancies there arose a necessity for scheduling.

An authority co-ordinating the entire process of selling, planning, designing, drawing, producing, and shipping new instruments became more and more entrenched as the techniques of keeping ahead of the field commercially grew into a stable foundation of the company's continuance and success.

But this co-ordination of the flow of work in a single authority was developed only by gradual steps.

The first of these was the cutting off of the direct contact between customer and engineer, already mentioned. The second step cut the engineers off from direct contact of authoritative kind with the shop. By these movements, and others, the present flow of work was established. Henceforward, the engineers were co-ordinate with the other departments and cut off from their former staff roles. The process of financial rationalization signalized the change further. To take a small example, travel

allowances had to be got in the future from a financial officer and signed by a "sales" officer superior to the engineers. Where before only Mr. 1, the President, exercised authority over the successive departments of the flow of work, now in fact Mr. 2, Mr. 7, Mr. 5, and Mr. 6 did so for their respective functions.

But this change was acknowledged only very gradually. Continuity was assured. The common goal of an enterprise run as a partnership of engineers to whose specialized skills sales, finances, drafting, and the shop were necessary adjuncts was preserved folklore and the formalities of the company. The division of the personnel into design and general engineering departments of equal standing could be logically supported since all the executives were engineers by training. But it became a verbal, not an actual, matter.

The gradual trend toward a hierarchy of co-ordinating staff and line authority of the kind existing at present quite naturally meant much shifting about in the roles played by individuals. Mr. 1 announced his intention to retire and gradually put it into effect. As head of the company, he continued to exercise considerable authority but gradually restricted it to his own "bailiwick" among the design, experimental shop, and drafting personnel. But his gradual retirement brought a change in the effect of his activity. It became difficult, to judge from the interviews, to separate his activity as presidential executive for the whole company from that of his new role of advisory staff consultant on engineering matters. His retirement from active administration, coupled with occasional reassertions of administrative and co-ordinating authority, gives much of its present intermittent character to the relations of System B in the structure of habitual relations.

The division of central authority thus preserved seems to have delayed but not stopped the emergence of Mr. 2, the Treasurer, as chief administrator of the enterprise in the day-to-day relations of its personnel, subject, of course, to management committee approval. Interviews recite instances of his activity in this role 1932 regime of Mr. 10. Others detail its growth afterwards. A famous investigation Mr. 2 once conducted, often referred to, seems to have marked its full emergence. But the survival of Mr. 1's habitual exercise of authority embodies in the formal division into three managerial spheres prevented its recognition.

The next stage of the company's internal development, then, was marked by the growth of the roles of Messrs. 7, 6 and 5. In production, Mr. 4's gradual retirement brought Mr. 9 very quickly to the fore. The eventual setting up of the Development Committee marks the high point of this stage. Mr. 5 became nominally head of "sales" and "general engineering" under Mr. 2. As "sales" representative upon the Development Committee, he was placed in a position exercising co-ordinating authority over the rest of the personnel for the purposes of continuity of a managerial financial policy. But Mr. 7 was made nominal head of the committee. The former engineer in chief, a Mr. 11, who takes Mr. 10's place, figures only as immediate subordinate to Mr. 1 in the older system of relations reporting directly to Mr. 1. (System B of the Charts.)

Thus the immediate authority for making assignments and co-ordinating the flow of work in the company was concentrated in the Development Committee, and specifically in Mr. 7's hands, himself merely one of the "general engineers". But the situation was structurally anomalous. One of the "engineers" had been elevated to authority over the rest of them without formal recognition of his role and without any clear-cut differentiation between staff and line functions. The Development Committee, at the very time when line authority was drifting by progressive steps into financial and sales department hands, was expected to act in several contradictory capacities. It was to gather recommendations and plans for future engineering development, often from the engineers themselves. It was thus to submit at least some of the time to suggestions made by the engineers as staff experts. It was supposed to submit these recommendations as plans to others (still a staff role). But then it was also supposed to order and supervise the actual production of the instruments planned. It was to do so by making assignments co-ordinating the work of the personnel engaged in the flow of work from design to shipping. It had, thus, in terms of human relations, both to submit to suggestions on the one hand, either accepting or rejecting them, and to turn around and enforce its decisions on the submitters on the other hand. There was thus no distinction between its staff role and its line authority in the company.

In the long run, this second stage proved to be merely transitional. The position of the Development Committee seems to have soon become untenable in the light of the trend toward a line authority (System A). The climax of the transition seems to have been reached in a celebrated upheaval known jocularly in the company as the "October Revolution".

The "October Revolution" inaugurated the third stage of internal development, the essential outlines of which were continuing at the time of the study. The incident was of great significance to everyone concerned and is of more frequent mention in the interviews than any other since the dismissal of Mr. 10.

The results of the "October Revolution" were merely to confirm movement in the direction already begun. Many of the personnel failed, as we saw in the interviews, to perceive the continuity. Changes made then continued the development of the company into a business organization of mere usual staff-line type, away from a partnership of engineers.

The first move was to separate "planning" from "design" by breaking up the development committee into two parts. This was merely a confirmation of an already existing division. Mr. 7 became in effect staff head, and Messrs 5, 8 and 11 became line heads. The result was, of course, to give further representation (by way of Mr. 11) to the design engineers, as he was one of them, but no more. The essential lines of development were by no means changed. The actual positions of Mr. 5 and Mr. 7 were not altered.

Meanwhile continued growth in other departments brought several changes which had further general effect upon the whole organization. The changed relations of Mr. 5 and Mr. 8 in the older "sales department" was a case in point. Growing out of an investigation by Mr. 1, they were the direct result of reshuffling brought about by Mr. 2. Mr. 5's former only partially acknowledged headship of the sales engineers was modified.

Mr. 8 became an independent sales head directing the activities of the junior engineers of the "general engineering" classification and reporting directly now to Mr. 2. This put him upon an equality of status with Messrs. 5 and 7 and elevated his sales department still further, making his junior "engineers" acting as salesmen of the company co-ordinate in status with the older design engineers. It also left Mr. 5 without subordinates other than those he could make for himself in his new activities. Foreign sales being conducted actually through correspondence or the direct contact of Mr. 2 and Mr. 1 with foreign customers, this left Mr. 5 with no one over whom he might exercise authority except the design engineers, the drafting department, the model shop, and production.

Since there was, from far back, little policy of interference with production, Mr. 4 had advanced Mr. 9 to take over his own almost autonomous position. That left Mr. 5 in effect, under Mr. 2 and Mr. 1 in the position of a co-ordinating officer. As he had to exercise this function entirely through the new "Design Committee", the only formal mechanism allowed for it, he had to turn that committee into such an office.

However, that committee presented grave difficulties. If Mr. 5 was to exercise this authority, he must receive backing from his superiors. But Mr. 1 regarded himself merely as a fellow member. Mr. 2 was not even a member of the committee, and he was not acknowledged as superior over the engineers either, except for his "functional" authority of financial character. Yet, in fact, these men with Mr. 4 were a superior court of appeal. The gradual retirement of Mr. 1, in accord with his announced intention, made it imperative that this appeal be carried more and more often to Mr. 2.

Consequently, the addition of Mr. 11 as a design engineer and Mr. 8 to represent "sales" to the design committee could have had little other effect than to increase discussion and make interpretation of orders by subordinates more difficult. Mr. 5 was the man in practical charge, though the design committee could also be on occasion Mr. 1. Mr. 11 was in the peculiar position of taking orders from a body of which he was himself a member. His presence on the body, however, seems to have made presentation of the design engineers' point of view of a great deal easier than before, when there was no channel at all by which it could be brought to the attention of Mr. 2 and Mr. 1.

A final stage seems to have been reached during the period of the study with the development of the new responsibilities of scheduling placed in Mr. 5's hands. Far from being "a function" such a responsibility is, as those under it know, in a fact a line authority. Mr. 7 had become an advisory staff officer. Mr. 8 was now a sales manager reporting to the head of line authority, Mr. 2. Mr. 6 had become a staff officer dealing with finance; another man, Mr. 12, reporting directly to Mr. 2, might become another, in time, as advertising manager. The new line organization (System A) was in effect now complete. In it, Mr. 5 was co-ordinate with these staff heads. In some measure, he was still only co-ordinate, not superior, to Mr. 9, although here the new situation had not been worked out yet. In 1939, Mr. 5 was in effect a General Manager, though without the formal authority of such an officer.

The result of the development is plain. It had led to a further and further subordination of the design engineers. This development sprang up during the period of Mr. 10 when he, as chief engineer, was a member of the board of directors and one of the three managers of the company, Mr. 1 and Mr. 3, the owners and directors of the company, being the others. The design engineers were then equal in position within the company with Messrs. 5 and 8, the sales personnel, and the finance staff with Mr. 6 and Mr. 2. In 1939, they had become equal to these men in title only, and Mr. 2 is "Treasurer". At the end of the course of development instituted since Mr. 10's leaving, they now had a position co-ordinate with that of the shop office staff. Along with them, the drafting room and the experimental shop had suffered this decline, concomitant with the growth in power and position of the finance and sales departments. The essential flow-of-work relations which existed all along were in no wise changed since the first change putting sales before design. But the centralization and integration of authority that has transformed an engineering partnership into a manufacturing organization was continuous. It could not have taken place without the integration of design and production in a single, financial control. Such an integration had taken place. Three departments were at last joined under Mr. 5's direction in the characteristic line organization of modern industry.

The explanation, then of the engineer's attitudes and sentiments was to be found in the growth of the line authority and the gradual transformation of the system of relations uniting the human beings of the company in their routines of daily work. This growth in turn went along with the steady development of the company's sales and its commercial relationships with its customers.

In the subjects there were a number of *words* and *phrases* which represented the beliefs of the group. Some examples are these: "no formal lines of authority", "the competent man needs no supervision", "formal rules are unnecessary encumbrances", "committee management is superior to individual management" ,"the directors are gradually handing the management of the company on to those within the group who have proved their competence", "the company belongs to the stockholders", and so forth. These phrases were somewhat ambiguous. They were subject to various interpretations. The interpretations placed upon them by different individuals in the company are widely different. In general, it could be said that the meaning of these words and phrases was determined by the individual's place in the company, in the adjustment which he had made within the habitual system of relations.

Many of these phrases, for example, stemmed from the directors, but it was quite clear to us that the meaning they attribute to them is altogether different from the meaning attributed to them by many others in the organization. The directors appeared to mean by them that activities of the company and changes instituted in company policies should be *tempered* and *modified* as a result of discussion and criticism on the part of everyone involved. They believed that authority was better vested in groups (committees) than in single individuals, but they did not mean by this, as many supposed, that the committees were representative bodies through which authority was to be vested in the stockholders as a group.

The directors favored informality in the conduct of affairs within the company, but that was misinterpreted by some to mean that in an informal interchange of suggestions management would be relinquishing its authority to accept or reject suggestions at will. The evidence shows that, although they were frequently influenced in their decisions by such suggestions, the directors ignored them without hesitation when they are out of line with their own philosophy of management or appraisal of company needs.*

A statement made by the directors a few years before could be quoted as an illustration of the point being made here: "When two or three men associate themselves together in business, few rules are needed, because, by mutual consent, changes are made to meet new conditions." How one interpreted this statement in the company later seemed to depend on whether one believed that those "associated together in business" were (1) the directors, (2) the

* We are not criticizing the directors. We are trying to demonstrate that many of these phrases descriptive of management's philosophy are subject to different interpretations by different people.

directors and the junior executives, or (3) all the stockholders (i.e., all the higher personnel or "engineers" in the company). The directors themselves would probably have answered that either the first or second group was meant. But there were many others who would answer without hesitation that the statement referred to the third group.

THE ACTUAL SYSTEM OF RELATIONS

What we have called above the "folklore" of democratic management - the phrases characteristic of the formal organization - thus seemed in fact simply a means of tempering and modifying the actual authoritative procedures derived from the directors which operated through the habitual structure of day-to-day relations. Within the framework of the habitual structure, suggestions were overruled, authority was manifested, the opinions of minor stockholders were frequently rejected, and those "associated in business" (the directors and the junior executives) had elaborated systems of frequently unverbalized procedures which operated with exactly the same force as they would have if they had been listed in a book of rules. The circumstances of day-by-day operation of the company involved a large number of incidents of the sort to be found in the type of line organization where the folklore discussed above is completely absent.

We are not suggesting that the ideals which we have called the folklore of the formal organization were in any sense the product of a "tongue in the cheek" attitude on the part of the directors. We are suggesting rather that the directors were practical men interested primarily in the economic success of a business enterprise. The day-to-day exigencies of the situation frequently demanded actions on their part which were not completely consonant with this folklore. These actions took place as a matter of course, probably without recognition of any lack of consonance. The directors did not, we think, realize how literally some of their employees interpreted the folklore. Nor did they realize that others are frequently not in a position to understand the practical necessities of executive decision.

The discussion of the historical development of the structure of habitual relations indicates that the research and design engineers had been staff advisors to the directors. They once had a great deal of freedom and independence, they were in frequent contact with customers, they evaluated the customers' needs and translated these evaluations into recommendations to management, they were under no very direct authority except that of the directors (and even this, as has been pointed out, was to a certain extent unrecognized because of the existence of such phrases as "the competent man needs no supervision"). Gradually, they were shifted into a position where they were in a *line* relation rather than a *staff* relation. Moreover, there emerged a level of authority *between* them and the directors. In terms of the habitual system of relations they were now on the same level as the members of the drafting department, for example.

This shift in position was not recognized for what it is. The formal organization (and the folklore surrounding it) remained as it was. The term "engineer" was still applied to Mr. 1, Mr. 5 and any one of the design engineers - exactly as if there were no distinctions in authority among these people.

Many of the complaints of the design engineers previously outlined and the continued manifestation on their part of behavior which to management seemed to be "prima donna-ish", was natural and direct results of their inability to adjust to their new positions. The change in the organization of the company had necessarily created changes in the habitual relations among the members of the organization, and these changes were resented because their net effect was a curtailment of prerogatives and of freedom of action for the engineer.

This upset in the habitual relations of the engineers was rationalized in several ways:

(1) The belief that the design engineers are not adequately represented upon the design committee.
(2) The complaint that the design committee is unnecessarily detailed in its supervision of the engineer.
(3) Criticisms of the domination of company policy by the sales department.
(4) The comment that only the engineers, as technical experts, are competent to pass finally on the technical feasibility of customer demands.
(5) The complaint that the directors request suggestions from the engineers concerning matters of policy, and then ignore these suggestions in the formation of policy.
(6) Criticisms of the phrase "the competent man needs no supervision".
(7) Criticisms of the junior executives.

The seventh point above requires elaboration. The emergence of a second level of authority

standing between the directors and the design engineers was a concomitant of the decrease in authority and freedom of the engineering group. Many of this group were stockholders, and therefore part owners of the company. They see in the emergence of the new executives a reduction in their "ownership control", as well as a reduction in their freedom of action. It is not surprising that they should regard the new executives as the *reasons* for many of the things they criticize (although of course these "reasons" are actually but symptoms of the shift in the structure of the organization).*

There was another aspect of this situation: if a level of authority builds up between men and their superiors, the men are no longer so easily able to take their difficulties direct to the heads of their organization. This happened in the present situation. It was no one's fault. It could not have been otherwise. But the upshot was that the persons at the new third level of authority (the design engineers and others) were now, as they were not before, two degrees removed from management. This meant that the difficulty of going to the directors and of getting the desired action from them when one does go was greater. The result was that the former machinery did not any longer work as effectively as a channel of communication. It should be emphasized that there was no longer in 1939 any channel of effective communication upward through the second level of authority to management. To carry a complaint or an uneasiness of any kind direct to management was in 1939 to have to carry it over the head of an immediate superior. This was not supposed to be the case, we know. But all the evidence points to the fact that it was the literal fact of the matter. The result was that, except for the stockholders' meetings, communication in the company from below upward was not at all adequate. And the reason was simply that the company did not yet recognize openly either below or upward - any levels of authority and of status in the organization - in spite of the fact that these had long since come to exist.

Thus, the opportunity to exercise the natural compensatory need to initiate matters, or to obtain redress for real or fancied difficulties was markedly reduced attendant upon the growth of a new level of authority between management and the design engineers.

One further point in this connection: The criticism was made on a number of occasions that the junior executives were incompetents who had been shifted from one "function" to another in the organization because they had proved their inability in each successive position. The shifting was regarded as a "face-saving" gesture on the part of the directors. A rereading of the historical development of the structure of habitual relations will indicate clearly how this opinion arose. It is another case of reaction to *symptoms*.

The changes in position of Mr. 7 and Mr. 5, for example, over a period of several years were corollaries of different stages in a continuous line of development. Mr. 7 has slowly become chief staff officer of the organization, and Mr. 5 became general manager under Mr. 2 (System A) in the unacknowledged line authority of the structure of habitual relations.

Throughout this development two things were true of the research and design engineers: (1) they were unaware of the real significance of the changes which were occurring. As a matter of fact, it is probable that no one in the company was entirely aware of their significance. (2) The engineers were progressively "demoted" from their former role as staff advisors to the directors with every step in the development of System A. Criticism of the junior executives and of Mr. 5, their new superior officer, was the consequence of these two changes.

CONCLUSION

This study of a difficulty in industrial cooperation has something, we believe, to contribute to practical administration. In the case just reported, it led directly to the taking of steps on the part of management to formalize the habitual procedures that had grown up and to reconciling the "formal organization" with actual practice. In addition, circulation of a report of much the same nature as this article among the personnel involved in the situation

* It is significant that the chief opportunity for the old system to reassert itself - the stockholders' meeting - has also been the chief vehicle for the expression of these complaints. The outbursts which signalized a release of accumulated resentment of changes, not understood (and often unperceived by the engineers) have apparently nearly all taken place there.

seems to have stripped away quite a little of the fog of misunderstanding.

The situation presented here is distinctly not unique. Again and again, the growth of external relationships in industrial and administrative bodies have completely transformed the habitual patterns of interaction by which work is done. But the original rules, charts and blueprints, with their associated phrases and slogans, hang on until such a day as a belated "reorganization" is no longer to be put off. It is not too much to believe that a great deal of difficulty, argument and misdirection of effort leading to the destruction of morale could be avoided if as accurate a check on real ("habitual") relationships among the personnel of an organization could be kept as is already customery in handling inventory and costs. Only the means for such a check have been, up until recently, unavailable. The present paper attempts to indicate in a simple form some of the methods which could be applied in maintaining control over the organizational structure. It is part of a general approach to such problems recently developed by which such control can be maintained to a high degree of efficiency.

A CASE OF A CHANGE IN FOOD HABITS IN BOUGAINVILLE, BRITISH SOLOMON ISLANDS

by

Douglas L. Oliver

(This brief discussion of the problem of changing food habits in a primitive group points a moral for the administrator who in this country is concerned with bringing about changes in the nutritive level of the general population. From time to time we shall publish material dealing with this problem in the United States in order to indicate that undernourishment is not merely a chemical or a financial problem, but primarily a problem in human relations. It is therefore necessary to work out the part played by the production and consumption of different food stuffs in maintaining the habitual relations of individuals within a society. Dr. Stonborough's article in this issue presents a practical method by which the data on consumption can be obtained on a nation-wide basis once the place of the food products in the relations of the people concerned has been adequately defined. Editorial Note.)

It is certainly not necessary to point out to social scientists the need for knowing something about food habits before attempting to change them. It will be useful, however, to make this view more explicit by referring to some evidence from primitive cultures.

The activities, institutions, symbols, and appetites derived from the bodily need for sustenance constitutes *a* most if not *the* most important aspect of primitive cultures. During recent years most intellectuals in anthropology have been preoccupied with the spectacular sexual aspect. In nearly every population there are individuals maladjusted because of serious blocks and frustrations to their normal sex functioning: such individuals constitute legitimate subjects of study by qualified persons. Some writers have gone so far as to characterize whole populations as exemplifying certain reactions to kinds of sex frustration. There is no doubt but that such inquiries are worthwhile and fascinating. Sustained sexual frustration, however, only rarely reaches a stage beyond bodily tolerance. On the other hand, serious and sustained frustrations to the satisfaction of food needs can be tolerated by no human organism. Malnutrition has reduced *whole* populations to death by starvation or to half-living. Travelers are all too familiar with miserable African and Oceanic tribes whose members suffer diseases brought about by diet deficiencies. Yet in how many cases have anthropologists recorded food consumption schedules with anything like the meticulous care observed in noting down dreams? In most cases we have taken nutrition pretty much for granted, and have gone on to organize our research around more exotic focal points like warfare, trading, or initiation rites. This is not true of many of the old masters; nor is it true of many modern anthropologists actively cooperating with administrators in colonial fields. Up to now, Britishers working in Africa have contributed most

to the anthropological study of nutrition, and Audrey Richards has produced the completest account. Her monograph - "Land, Labor and Diet" is a monumental exemplification of the thesis that nutrition provides a most central point around which to study and present the data of primitive cultures.

Now, collecting food recipes and observing cooking methods constitute only a small proportion of the necessary data, the cultural study of nutrition involves examination of some of the most basic institutions - and this is not intended to be a mere Functionalist's cliche. It will be useful to illustrate this point.

The horticultural, mountain-dwelling Nagovisi of central Bougainville have taro as their staple crop. It comprises by weight about nine-tenths of their daily diet - with the result that there are serious deficiencies which are only partly met by occasional tidbits of nuts, wild pigs, and birds. Physically, these natives are a sorry lot: shinbones warped by rickets, skins scarred by tropical ulcers and covered with tinea. Their short stature can probably be explained on racial grounds, but many of their constitutional deficiencies must be attributed to malnutrition.

Taro is their one staple - in fact, the word for taro is the same as for *food*. It is eaten every meal, every day; it is a symbol of well-being, and is used sacrally on ritual occasions.

The immediate-family is the gardening and food consuming unit. Each family has its own plot and its own cooking pot. Females are the taro experts - and they spend most of their waking hours producing and processing this staple crop. The man's work is finished after he has cleaned a garden site and built a fence. After that, he takes up his bow and arrow and resumes his continual and unfruitful search for wild game. It is actually the woman who - through her labors and knowledge - controls the main source of food. And in gardening matters her authority is real: she does not stamp around peremptorily giving commands, but she does quietly and effectively direct new fences to be built and new land cleared. Then, she estimates her family's taro requirements, plants, harvests, cooks it and apportions it. This situation cannot be said to be matriarchial in the ordinary political meaning of the term. Yet, woman's important economic role *is* reflected in other Nagovisi institutions - for instance, residence is matrilocal, and land inheritance matrilineal.

The accumulation of capital does not occur on any large scale because the staple crop, taro, is perishable and is not transformed into more permanent goods. As a consequence, no individual native - male or female - is able to accumulate and distribute much wealth and thereby gain prestige and political power.

Now, contrast this culture with one on the same island but farther south nearer the coast. In this second region taro is a staple, but not the *only* staple crop. Sago, yams, bananas, greens, almonds, coconut, fish, wild game and pork all go to make up a fairly balanced diet. No meal is regarded as complete unless the starchy *entree* is accompanied by steamed spinach seasoned with nuts, mushrooms, prawns, and chunks of pork and possum. Out of the forests and better stocked streams men are able to make sizeable contributions to the family diet. They also share much of the garden work with their woman-folk - and there is an incentive in raising larger crops since taro surpluses are used to feed pigs. These pigs serve further to enrich a diet which is far superior to that of the mountain taro-eaters, and the difference in the diet of the two regions is plainly responsible for the better health of the Southerners.

However, pig-raising - and we are still on the topic of food habits, because although pigs are traded and conspicuously displayed, their ultimate value is as food - pig-raising has effects other than the mere enriching of diet, for pigs become capital goods and as such enormously complicate the native institutions. They are owned largely by men, and such ownership bestows upon men a far more important economic role than is enjoyed by their mountain, taro-eating cousins.

Here in the South men trade pigs back and forth, accumulate them in large numbers, and then, by distributing them at feasts achieve prestige and political power. And, whereas in the taro-eating North, matrilocality exists - significantly, I believe - side by side with control of the chief source of food by female agriculturalists - in the pig-raising South, where men have taken over a large share of control over food production, patrilocality is just as popular as matrilocality. Furthermore, in the south, male-dominated political systems have developed. And as a corollary, males have usurped the art of fine cooking, so that now only they prepare the *finer* puddings and roasts. And in their distant travels and wider contacts, males are the ones who introduce new plants and experiment with them.

Attempts by colonial administration to change the diet of these two tribes met with varying

degrees of success. As one perplexed official said: "In both places I handed out packets of seeds to the blighters' chiefs - even told them how to plant them. Warned them that their taro wasn't much good. Up there in the mountains the seeds weren't planted at all. They simply rotted in the chiefs' houses. In the south, they took hold in some place, but not in others."

If the official had troubled to discover that women, not men, were the gardeners in the taro-eating north, he might have saved himself much trouble. His mistake was analogous to setting up a crocheting school for American business men. He could also have discovered that political leadership is so rudimentary among the mountaineers that no self-styled chief carried prestige enough to put across a food innovation. Furthermore, if he had been aware of the extent to which these natives evaluated their taro, he might not have belittled it so.

His partial successes in the south were mainly due to the fact that in some cases he had actually given seed to native leaders whose prestige was sufficient to stimulate a new food fashion. In other communities he made tactless errors in choosing recipients for seed and so piqued the slighted *real* leaders that none of their followers dared plant the seed.

All so much wasted materials and energy because of lack of knowledge of a few data about social organization and values. It would have been so easy in the taro-eating country to have gone straight to the women experts, to have stimulated *their* interests in new crops, to have shown them how to fit the new crops into the traditional planting routines. And in the south it was so fundamental to discover who were the *real* leaders, and then would have been so simple to start a new food fashion by appealing to their pride as fine cooks.

Contrasts like these between taro-eaters and pork-eaters of Bougainville, could be illustrated by material from all over the world. They exemplify the anthropologist's belief that food habits are not just appendecular to the main body of culture. There is a recurrent physiological need for food, and the techniques men use in producing, distributing and consuming it affects their social interaction and ultimately leads to the organization of many of their institutions. But men do not prize food for its nutrition value alone; they raise it to symbol status, endow it with prestige, and use it as one of their most sacred ritual paraphernalia. All these aspects must be remembered before anyone of us barges into another culture and attempts to change existing food habits. It must also be thought out what effects the successful introduction of a new food will have on the rest of their culture. Innocent-intentioned changes sometimes disturb the whole native economy and social organization.

One missionary representing a protestant sect settled a few years ago in an inland Melanesian pig-raising community. He drubbed away at the natives for years so that they finally gave up betel-chewing and meat-eating, turned out their pigs, and discarded their hunting weapons. Now they are socially isolated from fellow tribesmen. They no longer hold nor attend feasts - none of their heathen neighbors care for a vegetarian banquet. They no longer trade - for what is there to trade? Their local political hierarchy cannot operate effectively because there are no pigs to accumulate and distribute to create prestige and power by building up a following. The zealous missionary might have proselyted to his soul's content among the taro-eating mountaineers: vegetarianism would have meant no change in their lives. "Instead," he remarked, "I went to a meat-eating place where I could do more good". Now this successful missionary must supply his flock with large quantities of expensive marmite extract - to maintain their health; and he must visit them often to maintain their morale. To him his triumph was costly but well worthwhile, for he explains, "See how white their teeth are!"

THE CONTINUOUS CONSUMER PANEL

A New Sampling Device In Consumer Research

by

Thomas H. W. Stonborough

THE TRANSITION FROM UNCONTROLLED TO CONTROLLED SAMPLE

The development of new and varied sampling devices adapted to the specific conditions of differing commercial applications has made its greatest strides during a very recent period. There have been good reasons for this. So long as a sample was conceived to be but a part of a whole, which might either be as alike as a strip of linen is to the bolt from which it was severed, or as different as a leaf is from the tree of which it is a part, conclusions about any whole derived from any sample were of no practical value. Once it was conceived as a small scale model of the larger whole, valid deductions about the past and future behavior of large bodies of people which had hitherto been impracticable owing to their unwieldiness, became not only possible but profitable.

The history of the first devices based on the old-fashioned conception of the so-called uncontrolled sample, is well known. Beginning on a small scale in the form of straw polls for the purpose of forecasting local elections, they grew to enormous size as soon as public curiosity was extended to national elections and other national issues. Thus some of the samples used at the height of the "quantitative" era contained as many as twenty million people. The errors which occurred in spite of these enormous figures gave rise to a new trend of thought which veered away from insistence on quantity and accentuated the quality of the sample. The basis for this emphasis on quality lay in the new conception of the sample as a miniature model embodying all the basic attributes of the universe under study. These fundamental measures and ratios were first to be extracted from the larger universe by painstaking analysis and then built into the replica.

With this pivotal conception the trend in the size samples reversed itself. With the determination of the variation in accidental error by different sizes of samples through mathematical calculation, the samples grew smaller without prejudice to their accuracy. In certain election forecasts the sample now used was one hundredth of one percent of the universe under study.

The development of the controlled sample not only made possible the extension of accurate polls into any region where the public had or did not have an opinion. While the public was being questioned on opinions and managed to keep in its own limelight, new spheres less glamorous but none the less valuable were added to the useful application of sampling and the invention of new devices followed apace. Wherever human attitudes and preferences affect the habits and methods of trade on a scale sufficiently large to be economical, some form of sampling technique may be of value. Radio listening audiences, their habits and preferences for programs, newspaper and magazine readership, moving picture audiences, their attitudes or preferences, reactions of the public to advertising and merchandising methods were all subjected to specially adapted methods of measurement. Some highly useful and significant data were gathered. The latest problem area - which in variety and complication bids fair to dwarf all previous ones - to which sampling devices have been applied, is that of Consumer Research.

SOME PROBLEMS OF CONSUMER RESEARCH

The manufacturers of consumer goods have in recent years steadily switched their original interest in information on wholesale markets to retail market outlets and finally to the basic goal, to the consumer himself. This is not merely due to the fact that accurate and detailed information on overall distribution has become more easily available through Census Reports and Trade Association figures. The growing refinements in advertising and merchandising methods have pushed the economic, geographic, professional and other attributes of the consumer as well as his habits into the foreground of interest. Some of the more important questions to which answers are being sought by present day commercial enterprises are:

1. The consumption rate of different products.
2. The nature of purchasing habits.

3. The results of attempts to influence consumer habits and preferences.
4. The use to which products are put.

The answers to the first three questions center around a human action which is performed repeatedly in almost all cases, sometimes very often as in cigarettes, sometimes very rarely as in iceboxes. That action is the purchase. If you wish to get an answer to the rate of consumption you must find out how often and how much people buy. If you want to find out about purchasing habits, you must get the figures on when and how often people buy. The preferences of the consumer are easy to diagnose when you know what he buys, what he does not buy and how much he buys. The effects of radio, magazine or newspaper promotions, of premium or coupon deals are discernible in changes in the number and size of purchases which occur or fail to occur. Even changes in usage may show up indirectly in the volume of purchases.

Up to date three main methods have been worked out for supplying information on these problems.

The pantry inventory is conducted by trained interviewers who make visits to a controlled sample of homes and take down names and volume of the products they find on the shelves at the time of the visit. So far as it goes, this is a valuable method. Essentially it is a static measure of the market in the home. It gives a snapshot of the market at the time of the visit. If the interviewer had arrived at some other time he probably would have found other brands on the pantry shelf and the picture would have been different. Unfortunately for this method the actual market moves continuously and fast. In order to keep up with the changes and make the picture conform to the movement, the number of pantry check operations would have to be multiplied to a point where they would become uneconomical.

The personal interview with housewives at their doorstep is not much different from the pantry inventory method. The result of asking "What brand did you buy last?" also presents a static picture of the home market. Unless repeated every day it cannot follow the changes taking place and furthermore, if not repeated daily, it introduces a new factor affecting the accuracy of the results, namely the so-called error of recall. The housewife cannot remember her purchases unless they have recently taken place.

The store audit has the advantage over the two previously mentioned methods in being able to present a dynamic picture, but it falls short of the home. It sets up a representative sample of stores instead of consumers and measures the movement of goods over the counter by analyzing retail inventories and retail movement. But retail store sales cannot give a measurement of people, their habits or the use to which products are being put. All you know is that a certain volume of a given brand has been whisked off the store shelves. In addition to falling short of the home this method has other severe limitations.

1. Certain chain stores accounting for a large market in private label goods, do not permit independent audits.
2. In order to cover accurately the distribution of some products, it is necessary to audit all types of stores - drug, department syndicate as well as grocery, delicatessen and dairy stores. This would be much too expensive.
3. Because of the time required to complete audits of a number of stores economically, the time represented by the sales figures bears only a fuzzy resemblance to a definite calendar period.

These have been the three main methods through which marketing research has attempted to get at the answers to questions about consumption rates, consumer preferences as expressed in competitive position, consumer habits and product use. Every one of them is affected by one of two decisive weaknesses. Either they are unable to give a moving picture of a changing market or else the picture does not catch the consumer, the only person who can give the answers to the questions.

THE FIXED CONSUMER PANEL

The developments of the past years have pointed to a demand for a new instrument which would be able to give a *continuous and comparable picture of consumption in the home.* The specifications for such a device were:

1. Records must be kept by the same people in order to make them strictly comparable. The same people must be influenced to give their answers continuously over a long period of time in order to build a sufficiently strong basis for comparison.
2. Daily information on purchases must be received in order to produce a moving picture of the movement of the goods.
3. Answers must be given by the Consumer personally.

4. The method of reporting the information should be such as to reduce to a minimum the error of recall.

Such an instrument has been devised by the Industrial Surveys Company. A miniature cross section of the United States conforming to the 1940 Census by state and city sizes, geographical distribution and earning power was constructed. Two thousand families representing over eight thousand individual consumers report their daily purchases each month. In this fashion about 100,000 purchases are recorded monthly. This national panel is the result of many months of experimentation with psychological appeals, educational methods and physical controls, on a laboratory panel in Evansville, Indiana. The work with this original group made it clear that there were two major obstacles which had to be overcome: Initial Response and Mortality. Sufficient initial response had to be stimulated to produce an adequate sample. The continuing interest of the panel members had to be secured, in order to prevent them from dropping out.

THE USE OF INCENTIVES

Fixed panels are not new but they have not been outstandingly successful and their application has remained quite constricted. This limitation has largely been due to the fact that the incentives used in setting up panels and keeping them alive have been psychological. Interest and prestige do of course exercise a strong pull where they can be brought to bear. But the areas for which this is true, are relatively few. Where the work to be done by the respondent is difficult or is connected with conflicting motives, such incentives are of little use. The material incentive on the other hand is not limited by any such considerations and it therefore permits the extension of the fixed panel into almost any field.

1. *Initial Response.* Without any incentive the response to mail questionnaires is extremely low. It generally varies anywhere from 5 to 15 percent of the original mailing. Consequently the construction of a representative sample is well nigh out of the question, since the 15 percent who at best take the trouble to answer cannot be counted on to represent the 85 percent who do not bother to do so. In order therefore to get a high initial return the Industrial Surveys Company experimented with the simultaneous mailing of the invitation to join the panel, the first questionnaire and a carefully chosen gift. Thus the receiver of the gift is put under a personal obligation the moment he receives his invitation and his first task. The recipient is *not* told that he or she will receive a reward if they join the panel and *after* they fill out the questionnaire. They get their reward *before* they do any work. They can keep the gift and not do any work if they so desire. In short, the moral onus is placed squarely on the person at the receiving end, not on the sender. Provided the gift is properly chosen to fit the needs of the people who make up the panel, the effect is likely to be very powerful. The initial return to an invitation for joining a panel or to the task of filling out a single questionnaire varies with the size or nature of the performance demanded and with the value of the gift. With a moderate incentive, returns of between 80 to 90 percent have regularly been achieved.

2. *Mortality.* The material incentive was also used to overcome this hurdle. For a fixed panel to remain fixed is of major importance. If a large number of members drop out and have to be replaced, one of the major statistical advantages of the fixed panel vanishes. The replacements, carefully chosen though they may be, do not necessarily have the same habits and preferences as the drop outs; therefore, the factor of possible accidental error enters into the statistical picture, and tends to shift the fixed panel gradually into the category of moving panels.

The Fixed Panel differs from the Moving Panel in one respect. The people who answer questions remain the same in the former, while the latter makes use of a different though equally selected group each time. However well each successive sample is controlled and selected, the possibility of accidental differences cannot be excluded from the picture by any means whatsoever. In many problem areas the possibility of such errors may be of no real importance but in the field of Consumer Research it becomes acutely painful. To illustrate: When the reports for a group of 100 people show that 20 percent of their number bought a certain brand of coffee in one month and a later report from these same people shows that only 17 percent bought the brand in the second month, there can be no doubt that this change *really* took place. If on the other hand two different though equally selected groups had shown such a difference there could be no knowing whether it might or might not have been an accidental one. Any change in a fixed panel is necessarily a real change and if the panel has been correctly set up to represent the universe under study, then a

change in the panel *must* mean that a similar change in the universe has taken place.

The importance of keeping the mortality of the fixed panel down to a minimum once it has been set up is therefore of the highest. The Industrial Surveys Company has worked out an answer to this problem. For every report mailed by the panel member before a certain date each month, a fixed number of points are marked to his or her credit. A substantial bonus is distributed at the end of a year's continuous reporting. The member also receives a catalogue containing the description of a large variety of articles priced in points instead of in dollars and cents. Presumably the members will find something in this catalogue which they would like to have. They go to work in order to acquire the object of their choice. In a nutshell, the panel members are paid in kind for their services.

THE BASIC INFORMATION AND ITS USES

When the monthly diaries from the panel members come in, the information is coded and punched into cards which are run through machines. These tabulate the information which is incorporated into a monthly report. This report gives four kinds of basic information. It measures the market position of each brand in terms of:

1. Percent of the market for each brand by total volume (lbs., ozs., or dollars)
2. Percent of families using each brand.
3. Percent of the market by number of packages of each brand.
4. Percent of the market by number of transactions.

The combination of these four basic variables, when followed continuously discloses changes in buying habits *when* they occur, *where* they occur, and inferrentially *what* remedial action is necessary.

A soap manufacturer wants to know whether the buyers of his product buy as much or less than the average customer buys of the competing brand. A manufacturer of flour wants to determine whether his product should be put up in 5 or 20 pound sacks. In order to make a correct decision he needs to know how often his customers buy their flour per month and how much flour they consume each month. A manufacturer of biscuits wishes to test the results of a promotional campaign on the competitive position of his product. Are the new customers he has gained going to remain loyal to his brand or will they be gone with the wind after a short tryout? A liniment manufacturer wants to know not only what homes his product enters but which individuals in the home use it and why they use it, in order to build a new set of copy appeals.

These and many other kinds of questions are answered most efficiently by a Fixed Continuous Consumer Panel.

SOCIAL MANIPULATION AND THE FUTURE USE OF THE FIXED PANEL

The potentialities of the Fixed Panel technique are clear once its distinctive advantages are fully comprehended. It makes no difference whether the fixed sample is used in the area of Consumer Research or elsewhere. Nor do differences in the methods used for extracting the desired information from the panel in any way disturb the value of its results. The members of the panel may be approached on the basis of the limited personal interview restricting itself to a few simple questions. The approach may be based on the questionnaire or one of its variations such as the diary method which happens to be particularly useful for the purpose of recording highly repetitive human actions. Whether the intensive interview, the intensive questionnaire the audimeter or the interaction chronograph are the basic devices for gathering the vital data, the advantages of *continuity, comparability and elimination of accidental error* will remain as long as the sample used is *fixed* and sufficiently large.

The area of *social manipulation,* in the mind of the writer, offers the greatest potential field for this technique. The realm of commerce though enjoying the distinction of nurturing its first growth, nevertheless remains limited in its potentialities, because the high cost of sampling operations precludes their wide use by the majority of enterprises. On the other hand, our public and semi-public institutions who should act as the natural vehicles for such a development are shackled by an almost obsessive overvaluation of our unconscious cultural premises, which do not lend themselves to ideas of social experimentation. These premises themselves are a major symptom of the universal lack of sensitivity and flair in the realm of social and psychological problems of society, which characterizes our epoch.

Such problem areas as food habits and nutrition, cultural maladjustment and national typology, cultural pressures and cultural diseases,

analysis of cultural pressures and their influence on morale, remain in the limbo of speculation.

The technique of the fixed panel or sample is indispensible wherever problems of detecting the existence of anthropological influences at work in society and of measuring their effects have to be solved. Wherever artificial influences must be created and their differential effectiveness determined on a large scale, the fixed panel is a condition sine qua non. Since our form of society is rapidly becoming more and more manipulative the necessity for detecting, measuring and comparing *influence* continues to increase apace. Seen in larger perspective the fixed panel is one of the major tools necessary to the construction of a better society.

GOVERNMENTAL ADMINISTRATION AND INFORMAL LOCAL GROUPS

by

Charles P. Loomis

and

Douglas Ensminger

Recent research[1] has demonstrated for industrial organization what for armies and athletic teams has long been accepted as almost axiomatic: Equipment and logically worked out plans cannot make up for poor cooperation and low morale.[2] It will be the objective of this article to present findings from some recent studies of governmental administration in such form that they can be compared with the new studies of industrial management. The latter have proved that rapid changes in plant organization and equipment made to promote technical efficiency frequently fail to reach their objectives

1. Roethlisberger, F. J. and Dickson, W. J., *Management and the Worker*, Harvard University Press, 1941.
Roethlisberger, F. J., *Management and Morale*, Harvard University Press, 1941.

2. Unfortunately the word "morale" has come to mean many things. As Roethlisberger *ibid* has suggested it may be compared to the concept, "health." As in the case of the state of health, many factors, biological, physical, mental and social are important as related to morale.

Some have found the concept of social equilibrium useful in describing situations characterized by "low" or "high" morale. A given social group, for example, a basketball team, to have "high" morale in all situations in which it is supposed to function; i.e., situations in which it is supposed to win games according to specific rules and less specific norms of good sportsmanship must be composed of 5 men A, B, C, D, and E among whom expectancy patterns relative to one another and interaction allows for a wide range of adjustments in meeting varying situations successfully. Thus according to this thesis, which stresses the importance of flexibility in the system of interaction, equilibrium would be maintained among A, B, C, D and E when the team is suddenly confronted by opponents using any type of play within the rules and on any court. It goes without saying that such morale requires much successful experience in team play together under varying conditions and with substitutes. If the team fails to "click" when changes or substitutions are made, the basis for equilibrium in terms of human relationships is not flexible and, morale is not high. For the same reason the morale on the battle front may be low if relationships are such as not to allow for changes in action or organization resulting from casualties among comrades and replacements or other adjustments required by a given action.

Approaching the problem more subjectively, we may say that if members in a given cooperative system believe in its superiority and capacity to preserve its integrity, think their own goals and values are identified with those of the whole system, believe they should be preserved at all costs to themselves, and are loyal to and trust the competence of their respective leaders within the system, morale should be high. Other things being equal the cooperative system which keeps channels of communication free and clear for two processes "so that orders are transmitted downward without distortion and so that relative information regarding situations on the work level is transmitted upward without distortion" will have high morale. With given general objectives the latter process will enable the general staff of an army to issue orders and devise plans which take into consideration the pertinent details on the "firing line" and at different levels. It should prevent any "charge of the light brigade," which as an action may have demonstrated high morale but is a good example of how faulty leadership will destroy morale in the long run. The former process, which transmits orders downward without distortion but in such a manner that they become more and more specific and detailed the closer they come to the "firing line" is the keystone of good tactics. For the last quotation see Roethlisberger, *ibid* p. 192.

because workers feel that the changes threaten their security. The studies have been considered practical because they are based upon empirical observations and because they indicate ways and means of attaining objectives. For instance, if the worker's assignment to a bench in the front of the room has meant promotion and higher status among his fellows in the past, a new set-up requiring that the most efficient workers in a given department be stationed in the back of the room among workers of a lower status should be avoided or introduced with the proper "build up". Also, attention has been given to the problem of "selling" the worker such changes as will improve technical efficiency.

Such considerations, which the industrial studies demonstrate to be important, are different from the intuitive judgments of the skilled football coach who appraises the effect upon morale of changing the position of a given player in order to introduce a new play in that they are explicit and objectively defined. A good coach may know how to deal with clique or fraternity opposition to himself or to his policies, or a good army officer may know the critical gripes of his men and the way in which such dislikes may make for inefficiency of operation. It is, however, rare that such coaches or officers are able to convey to others their own more or less intuitive skills. The studies of industrial management describe in specific terms the manner in which opposition to new procedures may develop.[3] In the future the good manager in industry should understand more about how and why labor opposition to policies will be manifested. He should be able to convey this knowledge to others in such a way as to make his hearers or readers more skilled administrators. He should also know how to overcome some of this opposition, which is frequently more significant than "bottlenecks" due to shortage of materials or tools.[3] Although there are no books which would impart to the would-be executive specific directions concerning ways and means of simultaneously developing high technical efficiency and high morale in a given organization, real progress in this direction is being made. That executive or administrative skills and abilities are rare is not denied, but the more we learn about the processes involved in the exercise of these skills and abilities the more possible it will become to impart knowledge concerning them.

SOME ADMINISTRATION PROBLEMS OF THE DEPARTMENT OF AGRICULTURE

Of course, morale is also necessary for effective governmental administration.[4] Recent studies in various fields of governmental activity have demonstrated that the government administrator or officer, whether he be a police chief or the most important officer in a Federal Department, deals with many of the same problems as does the manager or executive in industry.[5] Studies of the United States Department of Agriculture may be cited in support of this conclusion. When during the depression it reached out to include within its formal structure millions of farmers who had previously had little organic relation to it, this Department was suddenly confronted with many of the same problems as is industry.[6] Dozens of agencies were established according to Congressional mandate to "adjust", "resettle", "conserve", "rehabilitate", etc. Swift action was demanded. Agencies must move ahead on the basis of accumulated knowledge to save rural society. "Now, new and powerful Federal agencies were barging into almost every local community, administering action programs

3. For an excellent statement of Organization Problems in Industry, see article by this title by Chapple, E., *Applied Anthropology*, Vol. I, No. 1, October-December 1941. For another penetrating treatment of common problems of the executive in business, with references to the same in church, government, and army, see Barnard, C., *The Functions of the Executive*, Harvard University Press, 1938. Also see Mathewson, S. B., *Restriction of Output among Unorganized Workers*, Viking Press, 1931.

4. The present article is focused on organizations the personnel of which are paid directly from tax funds in the form of salaries rather than on party organizations. For excellent studies of the administration problems involved in political party organization, see White, W., *Big Shots and Little Guys*, forthcoming from the University of Chicago Press, and Kurtzman, D. H., *Methods of Controlling Votes in Philadelphia*, University of Pennsylvania Press, 1935. Organization experts can learn much from studies of methods used in maintaining "morale" in the political party.

5. See Whyte, W., *op. cit.* where the "efficient policeman" is contrasted with what the middle-class thinks he should be. Also see Whitehead, T. N., *Leadership in a Free Society*.

Most government officials and business executives would be amazed to know how much their own problems of administration resembled those of the manager of a settlement house in a slum area. See Whyte, W., "The Social Role of the Settlement House", *Applied Anthropology*, 1941, October-December.

6. U. S. D. A. Miscellaneous Publications No. 88, Government Printing Office, Washington, 1940 describes the structure and functions of the Department.

that strongly affected local affairs and dealt with things which were far from being noncontroversial."[7] There could be sensed in most neighborhoods and communities of the nation strong opposition to at least some administration policies on the local level. To add to the difficulties which accompany any program requiring rapid adjustment, farmers became confused by the contradictions in the requests of the different agencies and the same agencies at different times. The confusion was threatening some phases of the long-established prestige of the department.

Some farmers were in somewhat the same situation as would be the factory worker who, after having been accustomed to a definite routine with little change in his relations to the line and staff in his organization, suddenly would have to deal with many new bosses issuing contradictory orders and requiring him to do things which he had never been expected nor hired to do.[8] In addition to the resistance in terms of informal neighborhood and community action, farmers' organizations, State and local officials, and especially the official representatives of the Land Grant Colleges, voiced objections to the new order.

Department of Agriculture officials themselves knew that to make administration effective something had to be done. Programs must be coordinated and the cooperation of the people at the "grass roots" must be elicited. Aside from these more practical aspects of the problem, which are much like those to be encountered in industry, there was an ideological element - the top-ranking officials in the Department were sincere advocates of maximizing local option in policy formation. All were philosophically sternly opposed to those aspects of bureaucracy which they termed "steam roller" government, yet they had, under the stress of circumstances, helped to develop powerful organizations which might easily destroy local initiative and responsibility. Some of these officials felt that independent farmers were in danger of becoming "wards" of the government and that those in Washington or in some regional office of bureaucrats were in danger of becoming dictators.

LINKING GOVERNMENTAL ADMINISTRATORS AND THE PEOPLE

Some technique was needed not so much to "sell" farmers their own programs, which had actually been established under Congressional mandate, but rather to co-ordinate these programs and allow the farmers in the local communities an opportunity to help adjust them to their own needs so that they would own and feel that they had assisted in creating them. In an attempt to attain these objectives the Department was reorganized in 1938 and the Division of State and Local Planning set up to assist in establishing two-way communication between the Secretary's office and the farmer at the "grass roots".[9]

Of course the farmer might be tied in to the programs in various ways. Where local units of government coincide with units such as neighborhoods or communities they may be very useful units for administration of various programs. Townships in New England and some Midwestern states and school districts in the Great Plains and Midwest are frequently important groupings. However, many students of rural local government have noted that local units of government usually do not coincide with the so-called natural groupings, the neighborhoods,

7. Eisenhower, M. S. and Kimmel, R., Old and New in Agricultural Organization. *Yearbook of Agriculture*, 1940, p. 1131.

8. On some newly established resettlement projects "clients" organized and threatened to, and sometimes even did, strike or desert their new homes. See Loomis, C. P.: *Social Relationships and Institutions in Seven New Rural Communities*, *ibid.*, and "Rebuilding American Community Life", *American Sociological Review*, Vol. V, No. 3, June 1940. Of course, relation between resettlement officials and settlers were not always innarmonious. Non-governmental agencies frequently experienced the same organization difficulties as did governmental agencies. See Richardson, F. L. W., "Community Resettlement in a Depressed Coal Region", *Applied Anthropology*, Vol. I, No. 1, which is an excellent description of management problems encountered by the Friends in resettling coal miners.

9. This organization which the authors believe to be one of the most important experiments in governmental administration in modern times will be described in a later number in this series. See Eisenhower, M. and Kimmel, R.I., *op cit.* and Foster, E. A. and Vogel, H. A., "Cooperative Land Use Planning - A New Development in Democracy", *1940 Yearbook of Agriculture*, U. S. Govt. Ptg. Office. So that administrators could "keep their ears to the ground" and find out farmers' experiences with programs from day to day a Division of Program Surveys which worked on the sampling principle was established. See Likert, R., Democracy in Agriculture - Why and How? *Ibid.*, 994 ff.

communities, and trade center areas. Some students have maintained that for effective government these local governmental units should be reorganized to conform to emerging trade center groupings.[10]

Another manner in which the farmer might be made to feel that he had more part in the programs would be to request his own organizations, the Grange, Farm Bureau, Farmers' Union and various cooperatives and other organizations to send representatives to various levels such as community, county, and state. However, these organizations are not always agreed on desired policies and in most states the proportion of farmers belonging to them is so small that it would be impractical to give their representatives sole authority to represent farmers. In some areas where the organizations are strong they have played important roles in policy formation but this is the exception rather than the rule. With the possible exception of Utah and southern Idaho, the church as a formal organization would probably not furnish a practical basis for tying farmer sentiment and direction into policy formation even if there were no prejudice against mixing religion and government.[11]

If all farmers in a given area belonged to some farm organization or cooperative, some advantage would attend the utilization of these formal organizations. The formal social systems have "handles", that is, they have organs through which concerted action can be taken and agreements arrived at through specific channels. Informal cliques and neighborhoods, so long as they have no formal structure, do not. Moreover, even if most farmers belonged to a few usable formal structures, these organizations are for the most part organized about special interests. They are pressure groups advancing the special interests of special groups. Some idealists have hoped that on the local neighborhood and community level where the various interests are centered in neighborhoods, the more or less selfish pressure group tactics would be minimized and the good of the whole would be stressed. Not narrow class, church denomination, farm organization or political interests but community interests would be advanced by "public-spirited" individuals. It was believed that the same community solidarity which gave birth to the old corn-husking, log rolling, and threshing bees could be utilized.

SOCIAL RELATIONSHIPS ARE THE COMMON ELEMENT IN FORMAL AND INFORMAL GROUPINGS

It may appear that there are two schools of thought among those government administrators who want to reach the "grass roots" in the field of agriculture: i.e., those who advocate the use of formal structures such as the local Farm Bureau and those who advocate using the informal groupings, the neighborhood and the rurban (see footnote 14 for comment on this word) community. All, however, are really on common ground. The formal organizations such as the Grange, churches and school boards all have their roots in informal groups such as friendship and/or kinship groups. Also, all types of social organization have some common elements and the qualities which make one group "formal" and another "informal" are always of a relative, not absolute, nature.[12] However, a formal organization

10. *Rural Government Proceedings* of the 14th American Country Life Conference, Chicago, 1932; Smith, T. Lynn *Sociology of Rural Life*, Harpers & Bros., Ch. XIX. Manny, T. B. *Rural Municipalities*, Appleton-Century Co. 1930; Galpin, C. H. *Rural Social Problems*, Appleton-Century Co., 1924, Ch. XV.

11. The importance of this formal organization as a factor in morale is perhaps too frequently underestimated. The excellent performance of the Mormons, among whom the church is by far the most important social system, in Liberty Bond sales, Red Cross and other endeavors during World War I indicates its significance. As reported up to December 21, 1917 Utah and Southern Idaho furnished 4,831 Army, Marine and Navy participants as compared with the quota of 877 for the respective areas. Amounts raised for Red Cross, Liberty Loans, Soldiers' Welfare Funds and Red Cross memberships were $26,291,000 as compared with quotas and requested allotments of $17,010,000. Where the proportions of Mormons was great, food administration was handled through the church. Separate organizations for such purposes were deemed superfluous. Correspondence with Professor Lowry Nelson. Cf. Roberts, B. H. *Comprehensive History of the Church*. Vol. 6.

12. Thus all social systems or organizations are based upon relatively stable relationships between individuals and the other parts which make up the whole. Any member of a social system "expects" another member to behave toward him and others in certain ways and this behavior is partially due to the simple fact that they both belong to a given organization and this difference furnishes the basis for the pattern of behavior of the organization. Thus there must be some agreement as to what qualities of individuals are to be rated "high" and what qualities "low". This furnishes the basis for organization. In the functioning of the organization or system, be it formal or informal, people will have different rights and duties and play different roles. Some have authority over others and the responsibilities of the individuals will vary.

such as a local church or a farm organization usually elects its officers and "formally" assigns roles, status, rights, duties and the like to its members. Formal organizations also meet and "formally" make other decisions. They may exert concerted action through officials to whom authority is "formally" delegated. Informal organizations such as cliques, neighborhoods, or kinship groups do not elect officers and "formally" decide and act. However, these differences are relative. Most formal organizations have their foundations in informal organization. Many studies have shown that the affairs of political and other formal organizations are run by cliques in an informal manner.

This holds for rural organizations as well as for city political machines. Thus Farm Bureau Local No. 50 at its last meeting considered the establishment of a cooperative feed store. To an observer at this meeting the procedure may have seemed very formal. However, two weeks before the meeting George Foote, a cattle feeder, met his old friend Andrew Barnes on the street in their local trade center. They had both come from the largest feed store in town. They both bemoaned the high feed prices. While they were heatedly condemning the town "monopolies" Jim Blair joined in and suggested that the three talk it over with their friend Roy Andrews, the president of the Farm Bureau local. After a discussion with Roy they all agreed that they should organize a cooperative like the one Roy said the local over at Littletown had started. They further agreed to "talk it up" to their neighbor members. These neighbors met and "formalized" by discussing and voting into existence something that had started informally.

Of course, it is no profound observation that "democratically" run organizations choose their officers in much the same manner as the above described feed cooperative was established. "As the date for election of the two new members for the District No. 8 school board drew near there was considerable talk around the neighborhood because most of the farmers thought the board had 'overreached' itself when it put up the new building. The $10,000 could have been more wisely used. The outdoor gymnasium was good enough and there were too many 'frills'. This 'splurging' would have to stop. The board ought to realize that they weren't spending W. P. A. money. But there was another side. Some thought Bert Kessler was right. Nothing was too good for our children. Besides why should No. 8 have a poorer set-up than No. 17:

"In the election Bert Kessler was returned to office. One of his friends said 'yes, most of the people are against improvements. But who are they, I ask you? Those Germans never come to meetings and the tightwads like Philip Shannor are too busy working to get out at election. My wife saw the wives of all our crowd. She explained it all to them. After that they couldn't let Bert down. Oh, yes there were the fellows from Deer Creek. My wife asked her sister over there to tell the women at the Ladies' Aid to get their men out. It's good that the progressive people run things around here. Prof. Wright over at the High School told me the other day that if the dead heads organized they would ruin education here. He said he wouldn't be surprised if there were enough of them to force the board to fire anyone who so much as mentioned the word 'evolution'. You know I wonder about that monkey business myself, sometimes.'"

These illustrations were introduced in support of the contention that the common denominator to all organization is social relationships. If any formal organization fits into the warp and woof of the relationships of people in the local area it will be useful for certain administrative functions. But the friendship, kinship, clique and other groups which have no formal meeting places or "formalized" procedures are all important in the functioning of effective organizations. Chart 1 and the subsequent discussion should further emphasize this fact. We may thus conclude that the two schools in the Department of Agriculture, i.e., those who desire to mobilize the neighborhoods and communities and those who want to use the ready-made structures of the school, farm organizations, or county government, must both ultimately found their procedures on the living relationships of the people. These relationships may be of the neighborhood type where friendship and kinship groups may predominate or they may take place on the broader stage of the trade center, in which case various contacts and relationships may be channeled by business and other agencies.[13]

13. For example, it is no accident that local bankers frequently become politicians of considerable influence. To the borrowers and others who may benefit from the banker's knowledge or position it may be accepted that "one good turn deserves another". In more ways than one a person's influence depends upon his capacity to help others. For a fundamental discussion of these mutual assistance patterns in primitave society, see Mauss M. Essai Sur Le Don . Forme et Raison de L'Echange dans less societes Archaiques, L'Annee Sociologigue, New Serios, v. 1.

The rural relationships, about which the last discussion has centered, are, of course, usually of longer standing and more frequently based upon kinship ties than are those one finds in an industrial department or factory shop. They do, however, have much in common. The executive who would make quick changes in organization in order to introduce more efficient procedures or machinery may be sure he will be opposed by much the same type of informal grouping as supports rural formal organization or opposes arbitrary governmental regulations. If the executive wants to regain the good will of a disgruntled group of shopmen he will not delude himself that he can accomplish this objective by allowing his foreman to choose one man from those he supervises to come to talk with him. He will know that the foreman will be likely to choose his "pet" who already probably has a low status in the clique which is offering the resistance. By the same token the Department of Agriculture officials would not be likely to build up rural morale if they put only farmers who are already "sold" on the programs on committees or if they allowed the department representative to channel communication only through a favorite.

RURAL SOCIOLOGISTS ADVOCATE NEIGHBORHOODS AND COMMUNITIES

For many years rural sociologists and others have attempted to mobilize the community for the betterment of rural life.[14] This has been particularly difficult in America because the village type of settlement is restricted to certain relatively small areas. Elsewhere the dispersed isolated homestead type prevails.[15] However, even with this handicap some progress in the direction of community identification and mobilization had been made before the depression. Virginia, with a rural organization expert in the State Extension Service, had used local neighborhood and rurban communities as units for administration. New York State had legislated to organize future rural school consolidation on the basis of the rurban or village trade center community and dozens of rural communities had been studied and minutely analyzed.[16] In World War I the Council of National Defense carried on a nation-wide campaign for community councils which grew on foundations laid by the community center Movement which had begun before the war. With this background it was natural that rural leaders with sociological training should advocate the neighborhood and community combination as the basis for local administrative units.

Administrators also saw the necessity of giving local orientation to their programs. For both practical and ideological reasons they appointed local committees. Thus they were better able to meet the accusation made by local people that their programs were conjured up by "brain-trusters" or "brass hats" in Washington. The Maps which follow will describe the boundaries of the areas which resulted from this localization process in Greene County, Georgia. But before these maps are presented the informal groupings of a typical neighborhood will be presented in order that the reader may appraise the importance as potential groupings to be used in administration.

INFORMAL TIES IN THE NEIGHBORHOOD AND COMMUNITY

Chart 1 describes visiting contacts among families in a white neighborhood in Maryland. All families in the rurban community were interviewed to determine their visiting affiliations. The chart indicates informal visiting contacts of people who "neighbor" with one another in the area which they

14. For different community organization programs, see Sanderson D. and Polson, Rural Community Organization, Ch. VII. John Wiley & Sons, 1939.

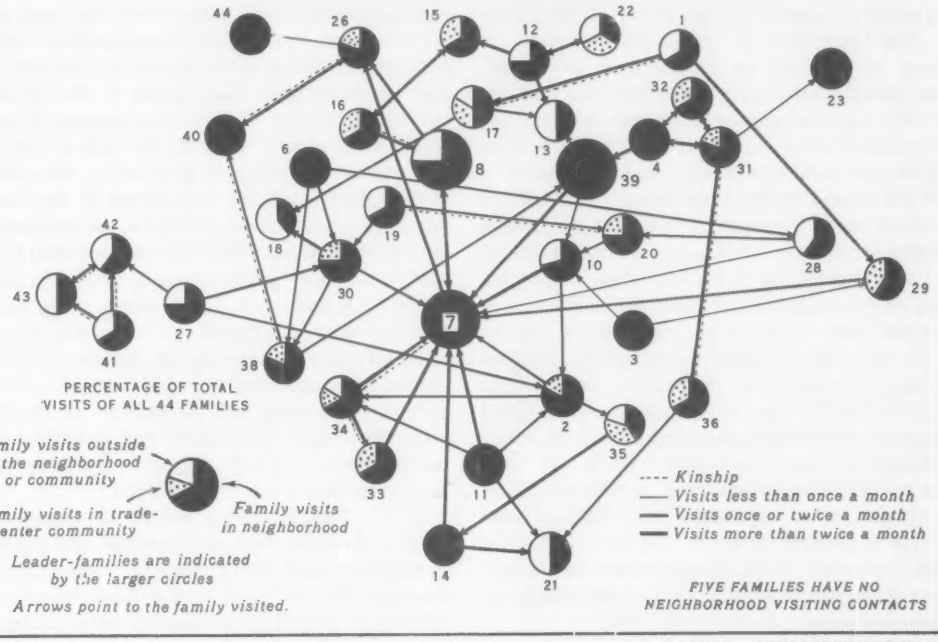
The Pioneers in the "discovery" of the American rurban community and neighborhood were C. H. Galpin, who first used the expression "rurban" community to represent the trade center, J. H. Kolb, D. Sanderson, C. C. Taylor and Carl C. Zimmernan. For a brief review of this achievement see Sims, N. L. Elements of Rural Sociology, Ch. 4 T. Y. Crowell Co. New York, 1940.

15. Smith, T. L. Sociology of Rural Life, Chs. X and XI, Harper Bros., New York City, 1940. Of course, it has been much easier to mobilize the local communities where the village type of rural settlement prevailed. The importance of this type of settlement was proved in the performance of the Utah villages in World War I. For a description of Utah villages see Nelson, Lowry, Brigham Young University Studies. For a description of a Spanish American village see Leonard, O., and Loomis, C. P. U. S. D. A. Rural Life Studies: I.

16. Stromberg, E. T., The Influence of the Central Rural School on Community Organization. Bull. 699. Cornell Agr. Exp. Sta. 1938. Since the local school is to play such an important role in the war effort both through its instruction facilities and plant as a center for rationing of food and other consumers goods, registration and the like, its significance can scarcely be over-estimated. See Map 2. It will be obvious to all that schools will be handicapped when they do not serve natural groupings such as neighborhoods and communities.

CHART 1

VISITING AMONG FAMILIES OF WHITE PLAINS NEIGHBORHOOD
CHARLES COUNTY, MARYLAND


PERCENTAGE OF TOTAL VISITS OF ALL 44 FAMILIES
Family visits outside of the neighborhood or community
Family visits in trade-center community
Family visits in neighborhood
Leader-families are indicated by the larger circles
Arrows point to the family visited.
---- Kinship
— Visits less than once a month
— Visits once or twice a month
— Visits more than twice a month
FIVE FAMILIES HAVE NO NEIGHBORHOOD VISITING CONTACTS

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designated as their neighborhood. Also, two other types of relationship, namely, the visiting contacts which these people have with people living outside their neighborhood but in their rurban community or village trade center and those outside both of these local units are differentiated.[17] Frequence of visitation and degrees of consanguinity were also ascertained. All visiting relationships and kinship patterns were then mapped by means of lines drawn between the dwellings of families as they appeared on a road map. (Map omitted here because of lack of space.) This map proved that the neighborhood, as previously delineated by several local people, was an area in which people lived intimately and where face-to-face ties prevailed. Of the 182 visiting relationships reported by the 44 white families in the neighborhood only 59 or 32 percent were with families outside the neighborhood. Twelve percent were with people living outside the neighborhood but in the nearby rurban community. Twenty percent went to Baltimore, 40 miles distant, or Washington, D. C., 25 miles away.

The map indicates that visiting is essentially a neighborhood affair. However, the rurban community and the "Great Society" also have roots in the neighborhood. The larger circles indicate the three families who were listed most frequently as being capable of representing the ideas and opinions of the neighborhood at public meetings. The black portions of the circles indicate the neighbor-

17. A map of the Maryland neighborhood and community areas is not included because it so much resembles that of Greene County, Georgia, presented in this article. If the reader will turn to the map designated: *Overlay - White Neighborhoods and Communities*, he will readily see how the visiting relations of families place certain people in key positions in the network of contacts in the different areas. The smaller areas on the maps are the neighborhoods and the larger areas the rurban communities. Elsewhere studies of mutual aid groupings have been made. These patterns are similar to the visiting patterns. Loomis, C. P., *op. cit.*

hood family visiting contacts; the stippled portions, the trade-center community family visiting contacts; and the white portions represent visiting contacts with families outside of the immediate neighborhood and community - mostly in Baltimore or Washington, D. C. The lines between the circles indicate the frequency of visitation as described in the legend. Arrows indicate the family which reported visiting. Lines with two arrows indicate that the families represented by the two circles touching the arrows each gave one another's names when requested to specify the names of the three families with whom they visited most frequently. Only five families in the neighborhood are not directly or indirectly in contact with family No. 7 by visitation. When the families in the neighborhood were asked whom they would trust most to represent their own situation, ideas and opinions in public meetings on matters pertaining to agricultural production, marketing, public policy, and the like (these subjects were listed and analyzed separately), families Nos. 8, 39, and 7 were mentioned most frequently. From the map one can see that these three families are very close to the "grass roots" and thus a very definite part of the life of the neighborhood. Types and extent of contacts determine in no small degree the leadership role to which one may be elected and which one is qualified to play.

COMPARING NATURAL AREAS WITH DEPARTMENT OF AGRICULTURE ADMINISTRATIVE AREAS

Thus it can be demonstrated that if farmers were to choose their own leaders for various purposes these leaders would be tied into the network of informal neighborhood and community relationships. In a number of counties in the states of Virginia and Maryland and in some other areas these networks of relationships are used in administration.[18] This is not generally the case. In those states where administrators strove to localize their programs they frequently failed to use communities and neighborhoods. Even where the local administration units were called "communities" they often had little relation to the formal or informal groupings of the people. Sometimes it was decided that the county should have a given number of units and these were drawn arbitrarily upon a map. Other areas were determined by geographic features which did not determine the boundaries of the real communities. Districts sometimes unnecessarily included ethnic groups which did not work well together, and attempts to group opposing economic interests of different local areas such as the sheep and cattle men in the Great Plains are recorded. Since most of the officials responsible for determining the local units of administration were not trained in the social sciences and since the prevalence of the isolated farmstead make community and neighborhood delineation more difficult, it is not surprising that natural groupings were often ignored.

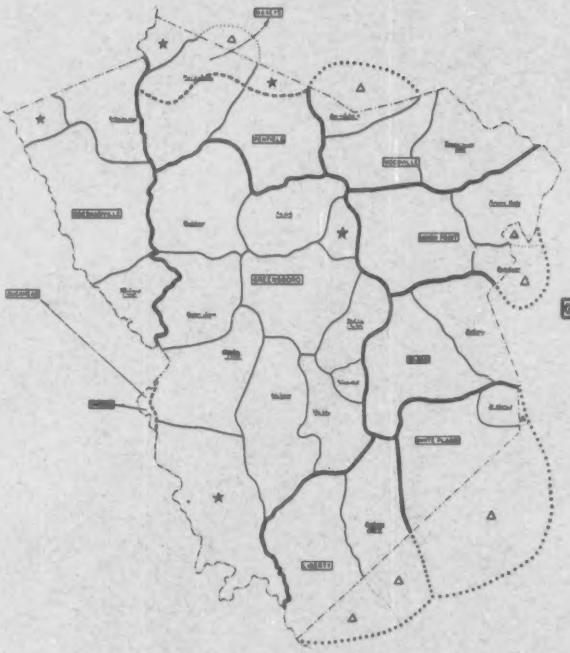
The following series of maps of Greene County, Georgia, will demonstrate that the concept of neighborhoods and rurban or trade-center communities was not used by the Department of Agriculture in determining administrating units. The reader will find it interesting to study the maps by comparing the administrative units with the neighborhoods and communities outlined on the overlay sheet attached to the last page of the Journal. Here no description will be made of geographical and cultural factors which have determined the development of the neighborhoods and communities.[19] There is likewise insufficient space to describe the various Department of Agriculture and other programs.[20]

18. The Bureau of Agricultural Economics in the U. S. D. A. has been called upon to delineate the neighborhoods and communities in local areas in some 32 states. In Virginia, Alabama, Mississippi, Arkansas, North Carolina, Kentucky, Missouri, most all neighborhoods and communities have been delineated. In other states delineation work in as many as 10 counties has been completed. Short-cut methods for quickly delineating neighborhoods and communities for administration will be described in a later number of this series. For "research" and "administrative" methods see Sanders, I. T. and Ensminger, D., Alabama Rural Communities, A Study of Chilton County, Ala. College, Montevello, July 1940.

19. These maps will be published in the report by Lee Coleman who conducted the research on which they are based. The report will be entitled Community Organization and Agricultural Planning, Greene County, Georgia, Bureau of Agricultural Economics, U. S. D. A. A book on Greene County by Arthur Raper which is an intensive follow-up study for this *Preface to Peasantry*, is forthcoming and will give very complete details on social structure and value orientation.

20. For a general presentation, see Chew, A. P., The United States Department of Agriculture, Its Structure and Functions, U. S. Govt. Printing Office, 1940.

OVERLAY - WHITE NEIGHBORHOODS AND COMMUNITIES



LEGEND

- BOUNDARIES OF COMMUNITIES.
- BOUNDARIES OF NEIGHBORHOODS.
- INDICATING OVERLAPPING OF GREENE COUNTY COMMUNITIES INTO ADJOINING COUNTIES.
- INDICATING OVERLAPPING OF GREENE COUNTY NEIGHBORHOODS INTO ADJOINING COUNTIES.
- BOUNDARIES OF AREAS ATTACHED TO COMMUNITY CENTERS OUTSIDE THE COUNTY
- GREENSBORO — COMMUNITY NAMES
- Vanlay — NEIGHBORHOOD NAMES.
- ★ AREAS WHICH HAVE FEW OR NO WHITE RESIDENTS AND CANNOT BE CONSIDERED NEIGBORHOODS.
- △ AREAS OUTSIDE THE COUNTY

hood family visiting contacts, the stippled portions, the trade-center community family visiting contacts, and the white portions represent visiting contacts with families outside of the immediate neighborhood and community - mostly in Baltimore or Washington, D. C. The lines between the circles indicate the frequency of visitation as described in the legend. Arrows indicate the family which reported visiting. Lines with two arrows indicate that the families represented by the circles connected by the lines each gave one another's names when requested to specify the names of the three families with whom they visited most frequently. Only five families in the neighborhood are not directly or indirectly in contact with family No. 7 by visitation. When the families in the neighborhood were asked whom they would trust most to represent their group situation, ideas and opinions in public meetings on matters pertaining to agricultural production, marketing, publicity, and the like, the names of [illegible] were mentioned most frequently. [illegible] to the "grass roots" and [illegible] of the life of the neighborhood [illegible] contacts determine in [illegible] is qualified.

COMPARING NATURAL AREAS WITH DEPARTMENT OF AGRICULTURE ADMINISTRATIVE AREAS

Thus it can be demonstrated that if farmers were to choose their own leaders for various purposes these leaders would be tied into the network of informal neighborhood and community relationships. In a number of counties in the states of Virginia and Maryland and in some other areas these networks of relationships are used in administration.[18] This is not generally the case. In these states where administrators strove to localize their programs they frequently failed to use communities and neighborhoods. Even where the local administration units were called "communities" they often had little relation to the formal or informal groupings of the people. Sometimes it was decided that the county should have a given number of units and these were drawn [illegible] on the map. Other areas were determined by geographic features which did not determine the boundaries of the real communities. Districts sometimes unnecessarily included ethnic groups which do not work well together, and attempts to group opposing economic interests of different local areas such as [illegible] sheep and cattle men in [illegible] areas are recorded. Since most of the officials responsible for determining the local administration were not trained in the social sciences, [illegible] the prevalence of the isolated farm and town community and neighborhood [illegible] areas did not, it is not surprising that natural groupings were often ignored.

The following series of maps of Greene County, Georgia, will demonstrate that the concept of neighborhood and rural trade center communities which are used by the Department of Agriculture in determining administrative units. The reader will find it interesting to study the maps by comparing the administrative units with the neighborhood and community lines outlined on the overlay sheet attached to the last page of the Journal. Here no description will be made of geographical and cultural factors which have determined the development of the neighborhoods and communities.[19] There is likewise insufficient space to describe the various Department of Agriculture and other programs.[20]

18. The Bureau of Agricultural Economics in the U. S. D. A. has been called upon to delineate the neighborhoods and communities in local areas in some 22 states. In Virginia, Maryland, Mississippi, Arkansas, North Carolina, Kentucky, Missouri, most all neighborhoods and communities have been delineated. In other states delineation work is now only in counties now being completed. Short-cut methods for quickly delineating neighborhoods and communities for administrative units will be described in a later number of this series. For "research" and "administrative" methods see Vaughn, J. T. and Boettiger, R., Alabama Rural Communities, A Study of Chilton County, Ala. College, Tuscaloosa, July 1935.

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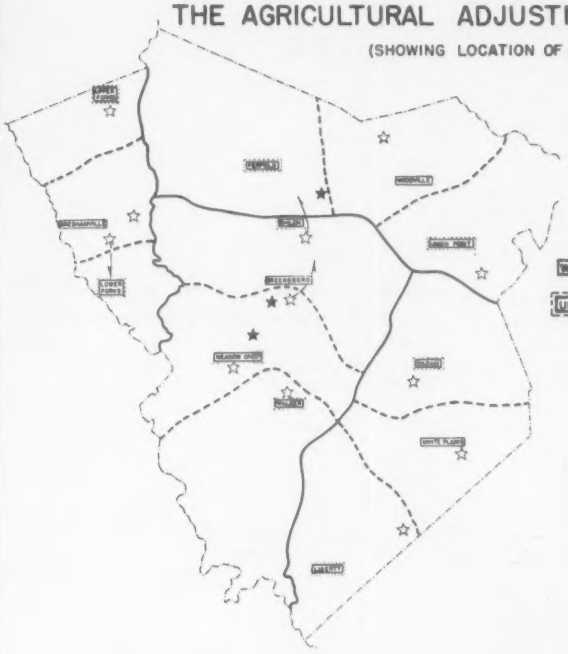
20. For a general presentation, see Case, A. F., The United States Department of Agriculture, Its Structure and Functions, U. S. Govt. Printing Office, 1936.

MAP 1 - "COMMUNITIES" RECOGNIZED BY THE AGRICULTURAL ADJUSTMENT ADMINISTRATION

(SHOWING LOCATION OF COMMITTEEMEN)



LEGEND

- BOUNDARIES OF "BIG COMMUNITIES" (FARMERS IN OUTLINED AREA VOTE IN AAA REFERENDA AT INDICATED CENTER)
- BOUNDARIES OF "LITTLE COMMUNITIES" WITHIN "BIG COMMUNITIES" (EACH "LITTLE COMMUNITY" ELECTS ONE COMMUNITY COMMITTEEMAN)
- WOODVILLE — NAME OF "BIG COMMUNITY" AND VOTING PLACE FOR OUTLINED AREA
- UNION POINT — NAME OF "LITTLE COMMUNITY"
- ★ RESIDENCE OF A MEMBER OF THE COUNTY COMMITTEE
- ☆ RESIDENCE OF A COMMUNITY COMMITTEEMAN REPRESENTING THE INDICATED "LITTLE COMMUNITY" WHERE THE COMMITTEEMAN DOES NOT LIVE IN HIS AREA, ARROWS INDICATE WHICH COMMUNITY HE REPRESENTS.

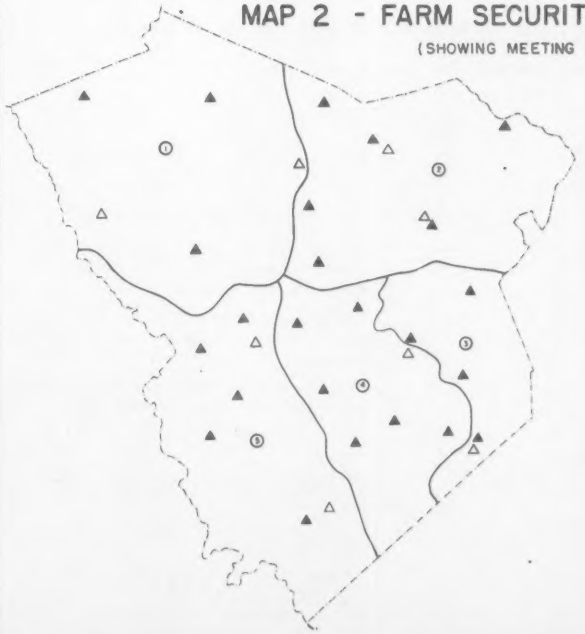
A representative should know the people he represents. He should be a part of the community and take part in community activities with them.

Can an AAA "community committeeman" living in Shiloh, a part of the natural community of Greensboro, represent the people of Macedonia, 10 miles away in the natural community of Penfield?

Union Point is divided among four AAA "communities."

MAP 2 - FARM SECURITY ADMINISTRATION DISTRICTS

(SHOWING MEETING PLACES FOR CLIENTS)



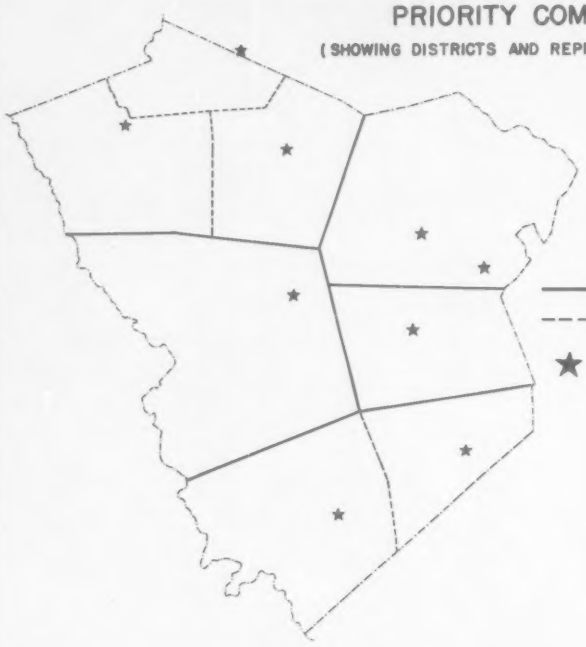
LEGEND

- BOUNDARIES BETWEEN DISTRICTS
- ③ DISTRICT NUMBERS
- △ MEETING PLACES FOR WHITE CLIENTS
- ▲ MEETING PLACES FOR NEGRO CLIENTS

All of the Farm Security Administration districts contain parts of three or four natural communities. Nine white neighborhoods and eleven Negro neighborhoods are split between two or more districts.

MAP 3 - SOIL CONSERVATION SERVICE PRIORITY COMMITTEE

(SHOWING DISTRICTS AND REPRESENTATIVES OF EACH)



LEGEND

——— BOUNDARIES OF DISTRICTS REPRESENTED ON THE COMMITTEE

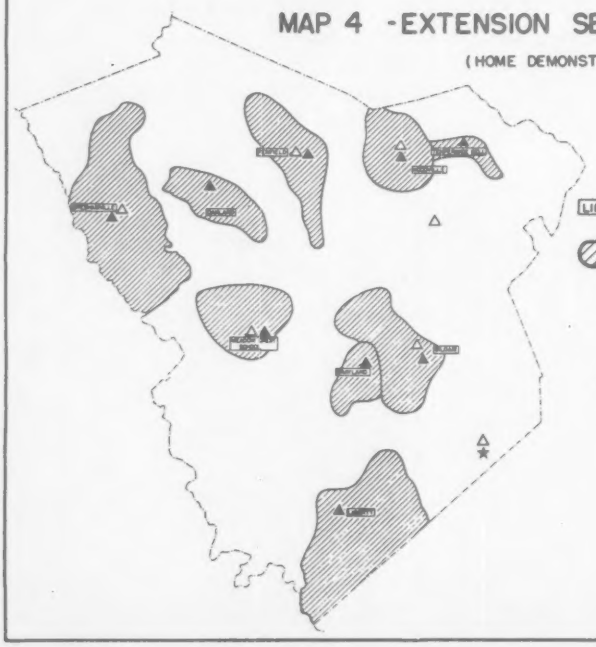
– – – BOUNDARIES OF DISTRICT SUB-DIVISIONS HAVING REPRESENTATIVES ON THE COMMITTEE.

★ RESIDENCE OF COMMITTEEMAN REPRESENTING INDICATED DISTRICT OR DISTRICT SUB-DIVISION.

The eight districts created for representation on the Soil Conservation Service Priority Committee bear little resemblance to the eight natural communities in the county.

MAP 4 - EXTENSION SERVICE CLUB WORK - WHITE

(HOME DEMONSTRATION AND 4-H CLUBS)



LEGEND

LIBERTY ▲ NAME AND LOCATION OF HOME DEMONSTRATION CLUB.

BOUNDARY OF AREA SERVED BY HOME DEMONSTRATION CLUB AT INDICATED CENTER. (ONLY PART OF WOMEN IN EACH AREA PARTICIPATE, HOWEVER)

★ LOCATION OF A WOMAN'S CLUB WITH WHICH HOME DEMONSTRATION AGENT COOPERATES BY GIVING OCCASIONAL PROGRAMS.

△ LOCATION OF 4-H CLUBS (ONE AT EACH SCHOOL EXCEPT GREENSBORO. AREA SERVED IS SCHOOL DISTRICT).

The Extension Service has been operating in Greene County longer than any other agricultural agency. But like the others, it largely ignores natural neighborhood and community lines, in carrying out its program.

Its Home Demonstration work reaches only a small proportion of the white women; and many areas are still untouched by other phases of extension work.

DEPARTMENT OF AGRICULTURE LOCAL ADMINISTRATIVE UNITS

Maps 1, 2, 3, and 4, show the areas created by the agricultural agencies for the local administration of their programs. Each agency has a different number of districts and none of them coincide with each other, with other local subdivisions of the county, or with the natural communities and neighborhoods.

In the case of the "communities" recognized by the Agricultural Adjustment Administration (Map No. 1), one neighborhood is divided between four "communities" and others are divided between two or three.

Of the five Farm Security Administration districts (Map No. 2) all but one contain parts of 3 or 4 natural communities. Nine white neighborhoods are split between two or more districts.

The eight districts created for representation on the Soil Conservation Service Priority Committee (Map No. 3) bear little resemblance to the eight communities in the county.

The Extension Service has been operating in Greene County longer than any other agricultural agency. But, like the others, it largely ignores neighborhoods and communities in carrying out its program (Map No. 4).

RESIDENCES OF OFFICIALS

To aid in carrying out their programs, the four agricultural agencies operating in Greene County - the Agricultural Adjustment Administration, Farm Security Administration, Soil Conservation Service, and Agricultural Extension Service, have set up a total of sixteen committees, boards, and councils made up of farmers and other local residents.

Maps 5, 6, and 7 show the geographic location of the agricultural committeemen and representatives in relationship to neighborhoods and communities.

Under the Farm Security Administration (Map No. 5) there are three advisory committees - Tenant Purchase, Farm Debt Adjustment, and Rural Rehabilitation, and three sets of directors for cooperatives - Sanitation, Purchasing and Marketing, and Greene County Farms, Inc. Membership on these three boards is restricted to FSA clients. Membership on the advisory committees are concentrated in certain areas, while other areas are unrepresented.

The Greene County Agricultural Program Planning Board (Map No. 6), under the leadership of the Extension Service, is constituted of farmers and professional workers from other agencies in the county who cooperate in planning for the programs of all agricultural agencies working there.[21] This committee has two subcommittees (county and community) on land use planning.

Two communities have no representation on the county agricultural planning board, the most important overall planning committee in the county. Four communities have only one representative on this board, or on the county or community subcommittees on land use planning. Nearly half of all the positions are held by residents of Greensboro community, the county seat community.

When we examine all the committees for the four agricultural agencies (Map No. 7) we find that the residents of Greensboro community hold 36 of the 94 positions; five neighborhoods are wholly unrepresented. Communities and neighborhoods with the highest social and economic status tend to have the most representatives. Low income families tend to be most prevalent in the unrepresented areas. Likewise, families holding the largest number of positions tend to be property owners, prominent in other social affairs.

Maps 8, 9, and 10 show the location of persons holding official positions or serving on boards in connection with local county government. An examination of these maps will reveal that these officials and board members are more largely concentrated in towns and villages than are those serving on agricultural committees and boards, but the distribution of those holding the two types of positions is not significantly different. On the agricultural committees there is a much greater piling up of positions on certain individuals and families than is the case with the county government jobs. The persons serving in county government positions are a different group from those serving on agricultural committee and boards, for only 14 out of 102 individuals engage in activities of both types. In general, when all committees are considered together, the same areas tend to be un- or under-represented as

21. Greene County was one of the first counties to initiate the Land Use Planning Program. The community areas were decided upon and the committees organized long before this community survey was conducted. It is this program that is gradually adopting the natural groupings for its basis of operation. As indicated above this experiment in government will be described in a future number of the series.

MAP 5 - FARM SECURITY ADMINISTRATION COOPERATIVES AND COMMITTEES

(SHOWING LOCATION OF PERSONS SERVING ON BOARDS OF DIRECTORS OF COOPERATIVES, AND OF PERSONS SERVING ON ADVISORY COMMITTEES.)

LEGEND

ADVISORY COMMITTEES:

- ○ RESIDENCE OF A MEMBER OF THE TENANT PURCHASE AND RURAL REHABILITATION COMMITTEES (THESE ARE SEPARATE COMMITTEES, BUT THEIR PERSONNEL IS THE SAME)
- ● RESIDENCE OF A MEMBER OF THE FARM DEBT ADJUSTMENT COMMITTEE.
- ◉ RESIDENCE OF A PERSON SERVING ON ALL THREE OF THE ABOVE COMMITTEES.

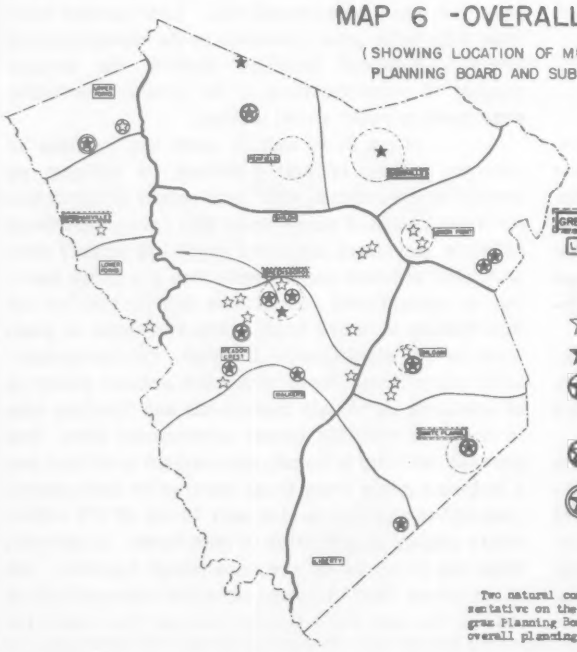
COOPERATIVES:

- ★ RESIDENCE OF A MEMBER OF THE MARKETING AND PURCHASING BOARD OF DIRECTORS.
- ☆ RESIDENCE OF A MEMBER OF THE SANITATION BOARD OF DIRECTORS.
- ▲ RESIDENCE OF A MEMBER OF THE BOARD OF DIRECTORS FOR GREENE COUNTY FARMS, INC.

Members of the Farm Security Administration's advisory committees are concentrated in certain areas; while other areas are unrepresented.

MAP 6 - OVERALL PLANNING COMMITTEES

(SHOWING LOCATION OF MEMBERS OF COUNTY AGRICULTURAL PROGRAM PLANNING BOARD AND SUB-COMMITTEES ON LAND USE PLANNING)



LEGEND

- BOUNDARIES OF "BIG COMMUNITIES"
- BOUNDARIES OF "LITTLE COMMUNITIES" WITHIN "BIG COMMUNITIES"
- GRESHAMVILLE NAMES OF "BIG COMMUNITIES"
- LIBERTY NAMES OF "LITTLE COMMUNITIES"

} SAME AS FOR AGRICULTURAL ADJUSTMENT ADMINISTRATION MAP

RESIDENCES OF MEMBERS OF OVERALL PLANNING COMMITTEES:
(DOES NOT INCLUDE PAID WORKERS WHO ARE MEMBERS)

- ☆ MEMBER OF COUNTY AGRICULTURAL PROGRAM PLANNING BOARD ALONE
- ★ MEMBER OF "COMMUNITY SUB-COMMITTEE" ON LAND USE PLANNING ALONE
- ✪ MEMBER OF BOTH COUNTY AND COMMUNITY LAND USE PLANNING SUB-COMMITTEES (ALL MEMBERS OF COUNTY SUB-COMMITTEE AND ALSO MEMBERS OF "COMMUNITY SUB-COMMITTEE")
- ✪ MEMBER OF PROGRAM PLANNING BOARD AND COMMUNITY SUB-COMMITTEE ON LAND USE PLANNING.
- ✪ MEMBER OF PROGRAM PLANNING BOARD AND BOTH SUB-COMMITTEES ON LAND USE PLANNING.

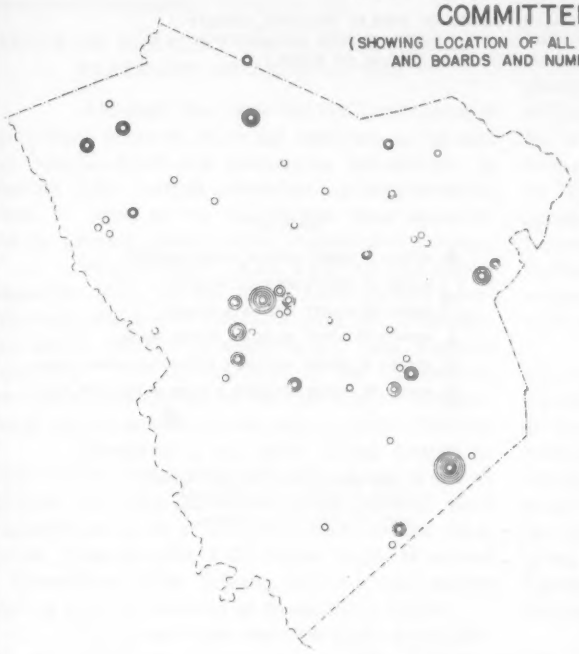
ARROW INDICATES LOCATION OF FARM OWNED BY A COMMITTEEMAN RESIDING IN TOWN.

Two natural communities have no representative on the County Agricultural Program Planning Board, the most important overall planning committee in the county.

Four communities have only one representative on this board, or on the county or community subcommittees on land use planning. Nearly half the positions in all three groups are held by residents of Greensboro community.

MAP 7 - MEMBERS OF AGRICULTURAL COMMITTEES AND BOARDS

(SHOWING LOCATION OF ALL PERSONS SERVING ON 12 COMMITTEES AND BOARDS AND NUMBER OF POSITIONS HELD BY EACH.)



LEGEND

RESIDENCE OF A PERSON SERVING ON A SINGLE COMMITTEE OR BOARD

RESIDENCE OF A PERSON OR FAMILY (HUSBAND & WIFE) HOLDING MORE THAN ONE POSITION ON COMMITTEES AND BOARDS. THE NUMBER OF CONCENTRIC CIRCLES INDICATES THE NUMBER OF POSITIONS HELD.

(NOTE ABSENCE OF REPRESENTATIVES IN SOME AREAS)

Four agricultural agencies have established a total of 16 committees and boards, made up of local people.

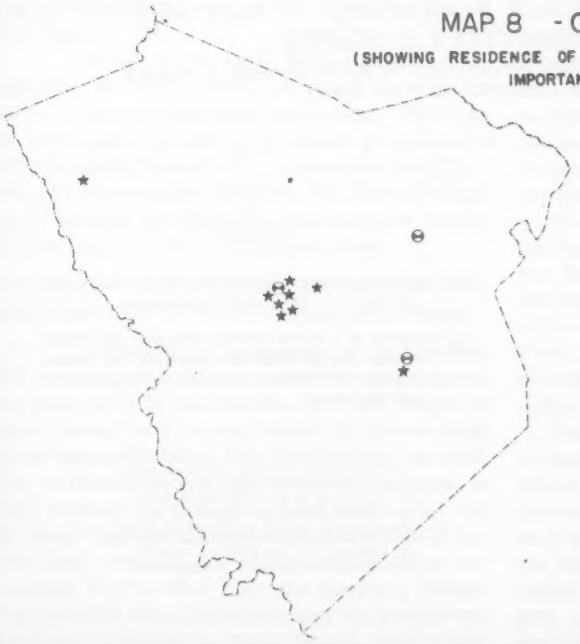
Residents of Greensboro community hold 36 of the 94 positions; 5 neighborhoods are wholly unrepresented.

Communities and neighborhoods with the highest social and economic status tend to have the most representatives. Low-income families predominate in the unrepresented areas.

Likewise, families holding the largest number of positions tend to be property owners, prominent in other local affairs.

MAP 8 - COUNTY OFFICIALS

(SHOWING RESIDENCE OF COUNTY COMMISSIONERS AND OTHER IMPORTANT COUNTY OFFICIALS).



LEGEND

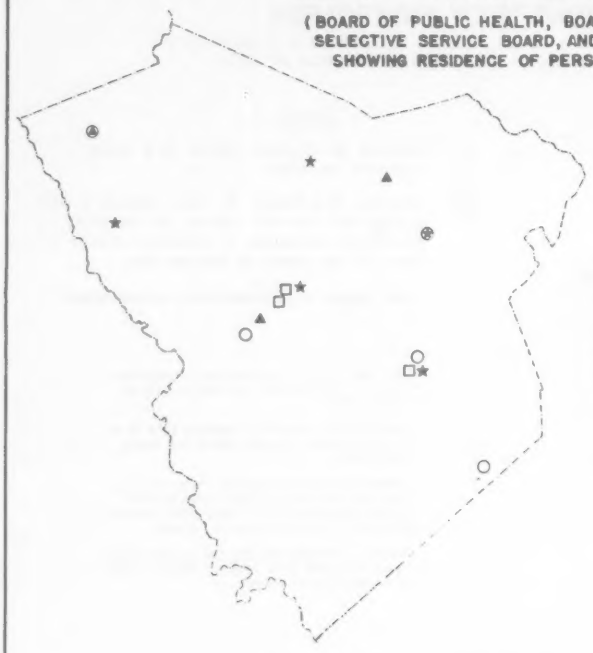
MEMBERS OF COUNTY BOARD OF COMMISSIONERS.

OTHER IMPORTANT ELECTED AND APPOINTED COUNTY OFFICIALS. (TAX COLLECTOR, TAX RECEIVER, ORDINARY, CLERK OF COURT, SUPERINTENDENT OF SCHOOLS, SHERIFF, CORONER, WELFARE WORKER, WARDEN OF CONVICT CAMP).

All county officials live in or near towns and villages. Eight out of twelve shown here live in Greensboro.

MAP 9 - OTHER OFFICIAL COUNTY BOARDS

(BOARD OF PUBLIC HEALTH, BOARD OF PUBLIC WELFARE, COUNTY SELECTIVE SERVICE BOARD, AND COUNTY HOUSING AUTHORITY — SHOWING RESIDENCE OF PERSONS SERVING ON EACH.)



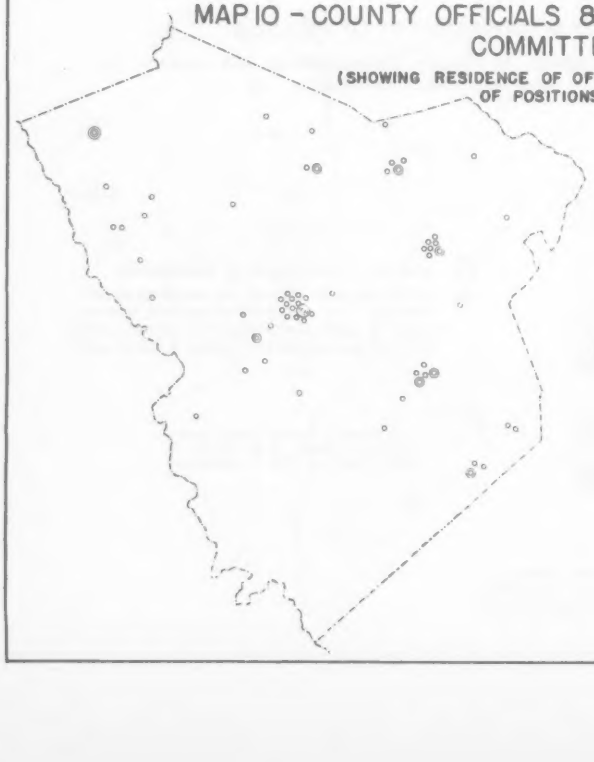
LEGEND

- MEMBER OF COUNTY BOARD OF PUBLIC WELFARE.
- MEMBER OF COUNTY BOARD OF HEALTH.
- MEMBER OF COUNTY HOUSING AUTHORITY.
- MEMBER OF COUNTY SELECTIVE SERVICE BOARD.
- MEMBER OF HOUSING AUTHORITY & SELECTIVE SERVICE BOARD.
- MEMBER OF HOUSING AUTHORITY & BOARD OF PUBLIC WELFARE.

Membership on other official county boards is somewhat more widely distributed, but there are still large areas which are not represented.

MAP 10 - COUNTY OFFICIALS & MEMBERS OF NON-AGRICULTURAL COMMITTEES & BOARDS

(SHOWING RESIDENCE OF OFFICIALS & BOARD MEMBERS & NUMBER OF POSITIONS HELD BY EACH)



LEGEND

- RESIDENCE OF A PERSON HOLDING ONE OFFICIAL POSITION OR SERVING ON A SINGLE COMMITTEE OR BOARD.
- RESIDENCE OF A PERSON HOLDING MORE THAN ONE OFFICIAL POSITION AND/OR COMMITTEE MEMBERSHIP THE NUMBER OF CONCENTRIC CIRCLES INDICATES THE NUMBER OF POSITIONS HELD.

Official county positions and board memberships are distributed among a large number of individuals, no one individual holding more than three such positions. But two large areas and several additional neighborhoods have no residents in official positions, while residents of the towns and villages hold the great majority of such positions.

when agricultural and nonagricultural positions are considered separately. (Map No. 11).

AREAS OF AGENCIES OTHER THAN THE DEPARTMENT OF AGRICULTURE

Although the facts that the Department of Agriculture agencies have not made use of the natural neighborhood and community boundaries in planning their various programs has been stressed above, it must not be thought that other agencies, past or present, have avoided making that mistake.

Neighborhood and rurban-community boundaries have, on the whole, been ignored in establishing local school districts (Map 12). The Penfield School district is much larger than Penfield community. The development of the Greensboro community is retarded by the fact that the Greensboro grammar school serves only the town children.

Membership on local school boards is rather widely distributed, but although there are 41 positions and only 26 white neighborhoods, eight neighborhoods have no representation on their local boards. Three-fourths of the entire county is served by Greensboro High School, but the local school board is made up entirely of Greensboro people.

Health services could be made more adequate by establishing more clinics. The only two white health clinics are located in the two largest towns (Map No. 13).

Oldest of the local subdivisions of the county are the militia districts, which serve as the basis for census enumeration and voting. They may have been based originally on natural groupings but have little resemblance to the present-day neighborhoods and communities (Map No. 14). Siloam village is split between two districts, with separate polling places on opposite sides of the main road.

AGENCIES WHOSE AREAS OF INFLUENCE ARE COTERMINOUS WITH NATURAL GROUPINGS

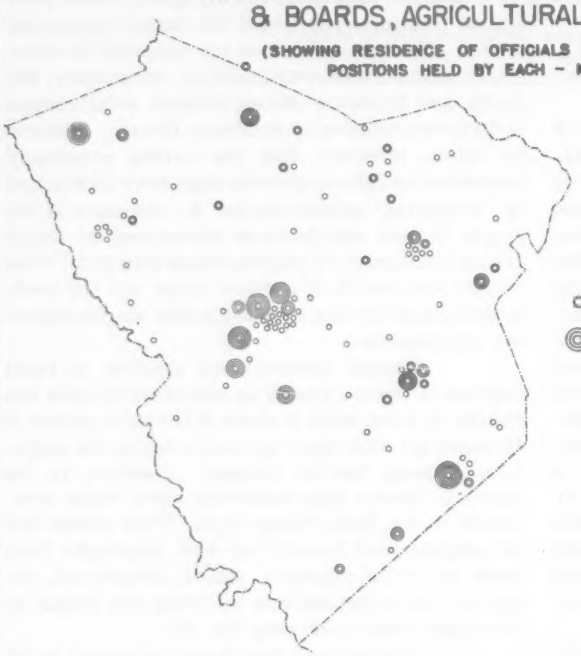
Previously the importance of the agencies which channel relationships has been emphasized. From Map 15 it is obvious that the rural church in Greene County is a strong factor in determining neighborhood affiliations. Church attendance of rural people in Greene County, both white and colored, is almost entirely on a neighborhood basis. In the rural South few agencies rival the church in the influence they exert in channeling neighborhood relationships. On the other hand, the church in Greene County has little effect in determining the boundaries of the rurban community. Nevertheless, trade areas for groceries, hardware, and dry goods, which were almost identical, resembled the rurban community areas. Just as the churches are important in channeling neighborhood relationships, so grocery, dry goods, and hardware stores channel relationships of the rurban community in Greene County. It should be noted, however, that the rurban community boundaries as delineated on the maps were determined by "clustering" neighborhoods. A consensus of the people in each neighborhood determined to which rurban community the neighborhoods belonged. Thus neither the church attendance areas nor the trade areas formed the basis for delimiting neighborhoods and communities.

Present associational patterns of rural Negroes in Greene County as described by them are similar in many ways to those of the white people of 40 years ago when they operated more on the neighborhood level than at present. Nowhere in the county is there a fully-integrated rural Negro community of the farm-village type. This means that the neighborhood is still the most meaningful local group for rural Negroes. Social, educational, religious, and organizational activities are mainly on the neighborhood level (Map No. 17).

Geographers have been interested in the differences in white and colored local groupings in rural areas. Neighborhoods of the two groups as recognized by local people are usually not coterminous. However, commercial relationships are less influenced by caste restrictions than are other relationships. Negroes and whites do not attend the same churches but they may trade in the same stores. When both groups have the same or approximately the same transportation facilities the rurban-communities of the two groups tend to coincide. This emphasizes again the importance of the factors which channel human relationships. Just as frequently in the shop room of a factory the clique alignments are conditioned by physical barriers such as walls, so rivers, mountains, and other factors through their influence upon communication are important in determining the boundaries of rural neighborhoods and communities. But just as non-physical factors such as line and staff organization and technical factors are important in the formation of cliques in the shop so technical factors such as the possession of automobiles may channel the white families' relationships toward the trade center. On the other hand, the Negro family which gets along without an automobile and has fewer commercial interests may be restricted to the local

MAP II - COUNTY OFFICIALS & MEMBERS OF COMMITTEES & BOARDS, AGRICULTURAL & NON-AGRICULTURAL.

(SHOWING RESIDENCE OF OFFICIALS AND BOARD MEMBERS AND NUMBER OF POSITIONS HELD BY EACH - MAPS 10 & 7 COMBINED).



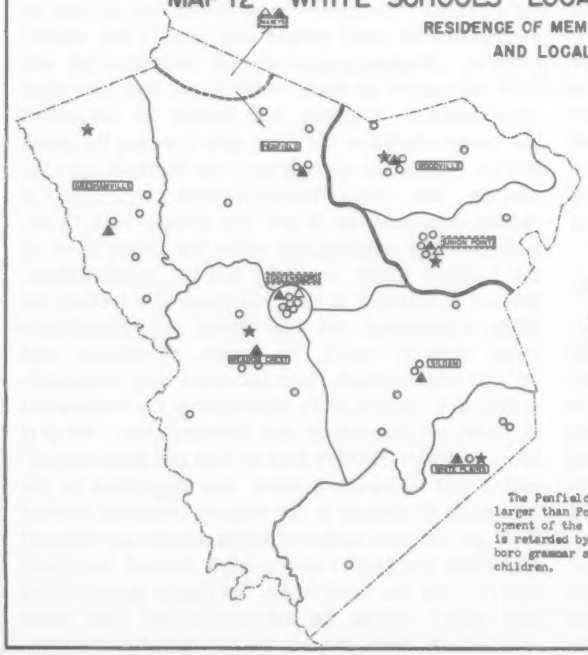
LEGEND

- RESIDENCE OF A PERSON HOLDING ONE OFFICIAL POSITION OR SERVING ON A SINGLE COMMITTEE OR BOARD.
- RESIDENCE OF A PERSON HOLDING MORE THAN ONE OFFICIAL POSITION AND/OR COMMITTEE MEMBERSHIP. THE NUMBER OF CONCENTRIC CIRCLES INDICATES THE NUMBER OF POSITIONS HELD.

Individuals holding the highest number of agricultural positions do not hold official county positions or serve on county committees and boards (See maps 7 and 10). However, in some cases, single individuals who hold only two or three agricultural positions also hold two or three county positions which increases the number of individuals holding a high number of positions.

MAP 12 - WHITE SCHOOLS - LOCATION AND ATTENDANCE-AREAS

RESIDENCE OF MEMBERS OF COUNTY BOARD OF EDUCATION AND LOCAL DISTRICT SCHOOL BOARDS



LEGEND

- BOUNDARIES OF SCHOOL DISTRICTS.
- BOUNDARY OF HIGH SCHOOL ATTENDANCE AREAS.
- BOUNDARY OF AREA FROM WHICH MOST CHILDREN, ELEMENTARY AND HIGH SCHOOL, GO TO MAXEYS IN OGLETHORPE COUNTY (THIS AREA IS IN PENFIELD SCHOOL DISTRICT BUT MOST OF THE RESIDENTS HAVE BEEN UNWILLING TO PATRONIZE THAT SCHOOL).
- SILOAM ▲ NAME AND LOCATION OF ELEMENTARY SCHOOL SERVING INDICATED DISTRICT.
- GREENSBORO △ NAME AND LOCATION OF HIGH SCHOOL SERVING INDICATED AREA.
- ★ MEMBERS OF COUNTY BOARD OF EDUCATION
- ○ MEMBERS OF LOCAL SCHOOL DISTRICT BOARDS

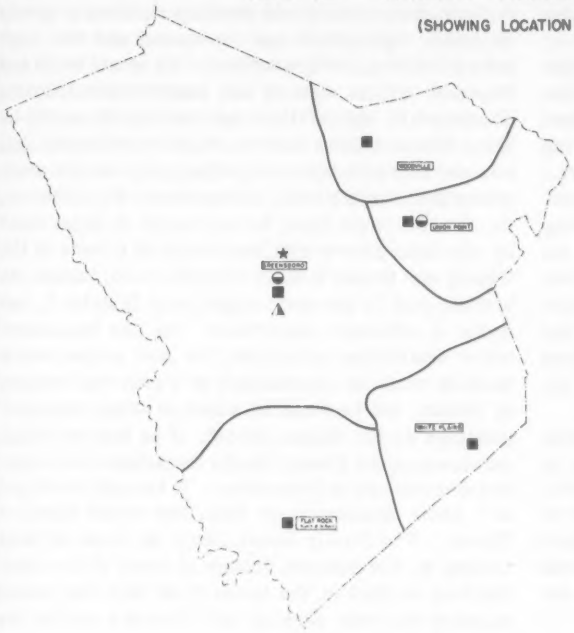
Because school districts are the unit for many local programs it is particularly unfortunate that they do not more nearly correspond to natural communities.

The Penfield school district is much larger than Penfield community. The development of the larger Greensboro community is retarded by the fact that the Greensboro grammar school serves only the town children.

Membership on local school boards is rather widely distributed, but although there are 41 positions and only 26 white neighborhoods, eight neighborhoods have no representation on their local board. Three-fourths of the entire county is served by Greensboro High School, but the local school board is made up entirely of Greensboro people.

MAP 13 -COUNTY HEALTH DEPARTMENT CLINICS

(SHOWING LOCATION AND AREAS SERVED)



LEGEND

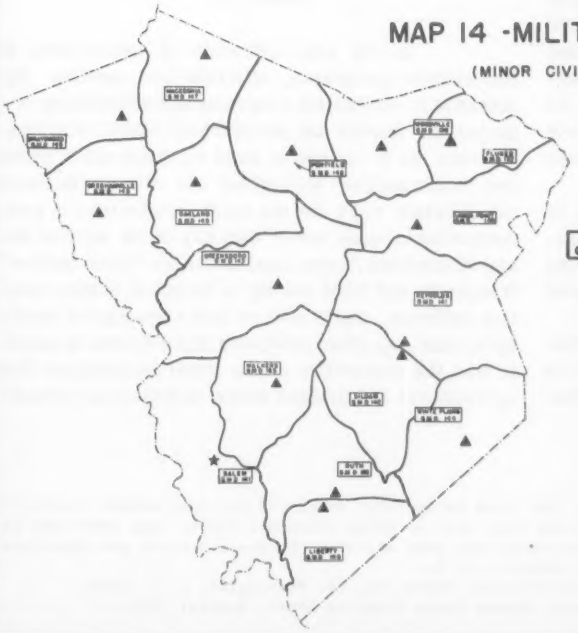
- BOUNDARIES OF AREAS SERVED BY NEGRO MATERNAL AND CHILD HYGIENE CLINICS.
- LOCATION OF NEGRO MATERNAL AND CHILD HYGIENE CLINIC SERVING INDICATED AREA.
- VENEREAL DISEASE CLINIC SERVING BOTH NEGRO AND WHITE (UNION POINT CLINIC SERVES UNION POINT & WOODVILLE DISTRICTS, GREENSBORO SERVES REMAINDER OF COUNTY).
- TUBERCULOSIS CLINIC SERVING ENTIRE COUNTY, WHITE AND NEGRO.
- WHITE MATERNAL AND CHILD HYGIENE CLINIC SERVING ENTIRE COUNTY.

The only white health clinics are located in the two largest towns. If clinics could be held at Greshamville, Penfield, and White Plains also, the health service could reach the entire county.

Negro clinics are now held at five towns. Additional negro clinics are needed at Greshamville and Penfield.

MAP 14 -MILITIA DISTRICTS

(MINOR CIVIL DISTRICTS)



neighborhood and tire and gasoline shortages may greatly change the association patterns of both Negroes and Whites who now own cars.

Of course, personal factors such as kinship and previous friendship ties may also be important determinants of shop and neighborhood alignments.[22] The foreman who marries the big boss's daughter or plays golf with him may get a "pipe-line" to him. This may enable him to short-cut formal communication channels, disregarding superintendents and other authorities who on the formal organization chart stand between him and the boss. Similar phenomena characterize agencies in rural neighborhoods and communities. They may be important in determining neighborhood groupings and influence the choice of trade center at which the farmer will trade.[23]

If Negro associational patterns follow white trends, and if most hindrances to the development of Negro communities are not removed, a community pattern of the type shown in Map No. 18 is likely to emerge. Agencies will greatly influence this pattern by the way in which they group Negro neighborhoods for local administration. At present negroes are not represented on many of the committees.

In the last 40 years, the community surrounding the county seat has almost doubled in size at the expense of three other communities. This is a general trend greatly augmented in many rural areas by the governmental programs of recent years.[24] In 1900, neighborhoods were more important and communities less important than today. No white communities in Greene County have completely disappeared since 1900, nor have any new ones emerged.

The failure of administrative areas to conform to the natural neighborhood and rurban-community groupings is characterized by the following which will have meaning if place names are located on the maps.

"A farmer living in the Wesley Chapel-Sibley School neighborhood would be considered in the 'Shiloh Community' for Triple-A and Land Use Planning purposes and would vote in Triple-A referenda in Greensboro. He would send his children of grade or junior high school age to Siloam, and his high school children to Greensboro. He would be in the Reynolds Militia district and would vote in Siloam, on the north side of the road - or else he would be in the Siloam militia district, which would mean that he must vote at a separate polling place on the south side of the road in Siloam. If he were a Farm Security client he would likely be in District 4, supervised by the same person who has charge of clients in the Veazey and Bicker's Store Neighborhood, though his brother just to the north might be in District 3, and under a different supervisor. On the committee which establishes priorities for soil conservation work he would be represented by a man who resides in Siloam, and he would be asked to attend farmers' meetings at the Siloam school. If he desired clinic service from the County Health Department he would be expected to go to Greensboro. If his wife belonged to a home demonstration club, she would attend at Siloam. The family would likely do most of their trading at Greensboro, though if some of the older children worked at the Union Point Mill they would probably do their banking and at least a part of the family trading there.[25]"

SUMMARY

In the administration of Department of Agriculture programs, officials are seeking for menas of co-ordinating programs and maintaining organization morale and satisfactory public relations. This has led to the use of local administrative areas and "communities" throughout the nation. Because the officials were for the most part trained in production techniques rather than any of the applied social disciplines, these local areas or "communities" frequently had little reality in terms of human relation patterns. Many have no more reason for existence than any other arbitrary lines drawn on maps. It was the contention of the rural sociologists that agricultural and defense action and planning organi-

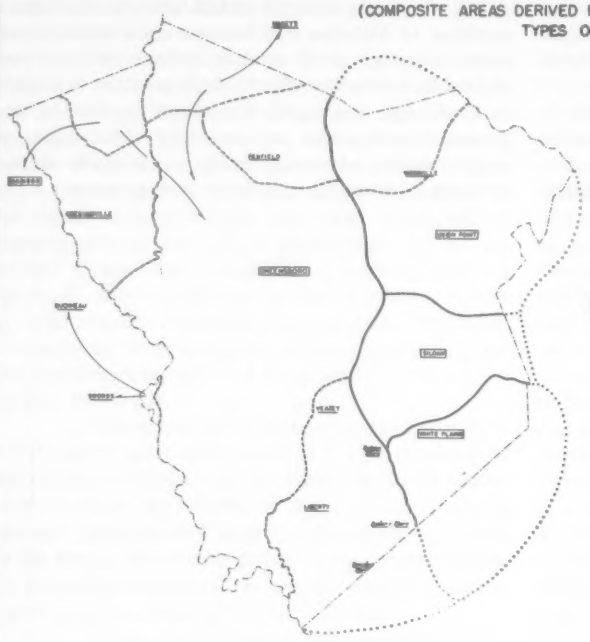
22. Loomis, C, P. *op. cit.*
23. Likewise the share-cropper whose father owns the land he operates is not of the same social status as other share-croppers. The Negro whose family has been with a white planter's family many years may be "protected" and have more authority on the plantation than some whites. Personal factors are important in both formal and informal organization. See Schuler, R. A. *Social Status and Farm Tenure* U. S. D. A. Social Research Report No. IV. Washington, D. C. 1938.
24. Clark, C. D. and Robert, R. L., People of Kansas, Kansas State Planning Board, Topeka, 1936.
25. Coleman, Lee, *op. cit.*

zations should base their local administration units on the natural neighborhood and community groupings. The next step will be to demonstrate how this has been done. This will be attempted in the next article in this series.

The tendency in Virginia and several counties in other states to base administrative units upon natural grouping should strengthen certain aspects of local organization. Just as the old Russian Mir became stronger because it was a unit for administration, the natural neighborhoods and communities in America may become more definite and solidary groupings if used as units in defense and other administrative effort. Segmentation of neighborhoods and communities such as depicted by the Greene County maps can scarcely build solidary neighborhoods and communities which can be satisfactorily tied into the administrative process.

MAP 15 -GENERAL TRADE AREAS

(COMPOSITE AREAS DERIVED FROM TRADE AREAS FOR SPECIFIC TYPES OF BUSINESS)



LEGEND

——— BOUNDARIES OF MAJOR TRADE AREAS (THE INDICATED TRADE CENTERS PROBABLY GET AT LEAST HALF OF THE BUSINESS IN EACH AREA)

• • • • • • INDICATING OVERLAPPING OF MAJOR TRADE AREAS INTO ADJOINING COUNTIES.

– – – – LESSER TRADE AREAS WITHIN MAJOR AREAS (STORES IN THESE AREAS HAVE A FAIR STOCK OF SOME TYPES OF GOODS, BUT MAJORITY OF TRADING IS DONE AT INDICATED MAJOR TRADE CENTERS)

GREENSBORO NAMES OF MAJOR TRADE CENTERS.

PENFIELD NAMES OF LESSER TRADE CENTERS OR AREAS.

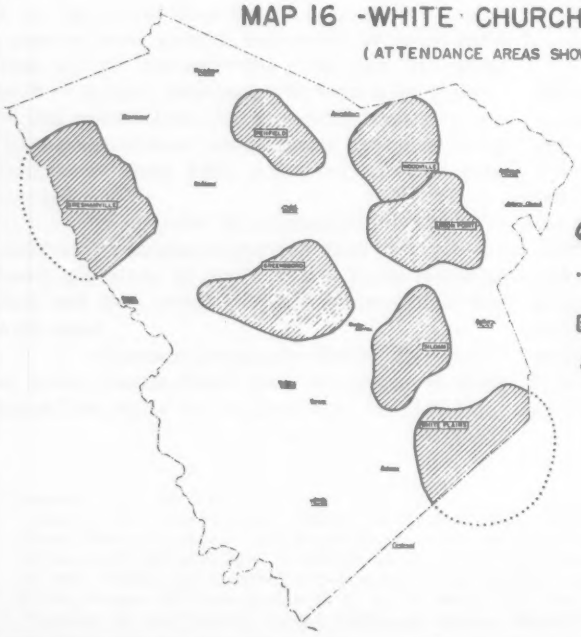
ARROWS INDICATE CASES WHERE TRADE IS DIVIDED BETWEEN TWO TRADE CENTERS.

Trade areas for groceries, hardware, and dry goods are almost identical and are the most influential factor in outlining general trade areas.

The Farm Security Administration and other agencies have been responsible for "pulling back into the county" about one-fourth of the trade area. For example, the people in the northwestern part, who used to go to Maxeys and Madison, now trade chiefly in Greensboro since they must come there on business with governmental agencies. Greensboro merchants are increasingly aware of improved business conditions.

MAP 16 -WHITE CHURCHES - LOCATION AND AREA SERVED

(ATTENDANCE AREAS SHOWN FOR TOWN AND VILLAGE CHURCHES ONLY)



LEGEND

BOUNDARIES OF ATTENDANCE AREAS OF TOWN AND VILLAGE CHURCHES.

• • • • • • INDICATING AREA IN ADJOINING COUNTIES SERVED BY TOWN AND VILLAGE CHURCHES IN GREENE COUNTY.

SILOAM TOWN OR VILLAGE WHERE CHURCHES SERVING INDICATED AREA ARE LOCATED.

Rebecca OPEN-COUNTRY CHURCHES.

Church attendance of rural people in Greene County, both white and colored, is almost entirely on a neighborhood basis; but it has very little influence on community affiliation.

Farm people, especially Negroes, do not usually attend town or village churches.

MAP 17 -NEGRO NEIGHBORHOODS

LEGEND

- NEIGHBORHOOD BOUNDARIES
- FLAT ROCK — NEIGHBORHOOD NAMES
- INDICATING OVERLAPPING OF GREEN COUNTY NEIGHBORHOODS INTO ADJOINING COUNTIES
- LOCATION OF SMALL SUB-GROUPS WITHIN NEIGHBORHOODS
- ★ AREAS HAVING NO NEGRO POPULATION

The neighborhood is still the most meaningful local group for the rural Negroes. Social, educational, religious and organizational activity are mainly on the neighborhood level.

In the absence of strong outside ties with towns and villages, the neighborhood functions as "their community."

MAP 18 -NEGRO NEIGHBORHOODS AND COMMUNITIES

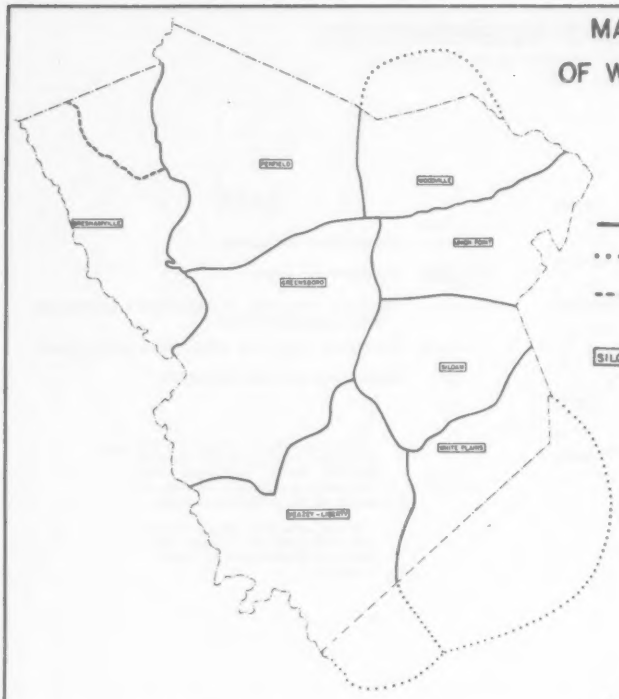
(SHOWING COMMUNITY PATTERN THAT WOULD LIKELY DEVELOP OR COULD EASILY BE DEVELOPED IF CONDITIONS HINDERING DEVELOPMENT OF NEGRO COMMUNITIES WERE REMOVED)

LEGEND

- BOUNDARIES OF COMMUNITIES
- COMMUNITY BOUNDARIES IN DOUBT (DEPENDING ON DEVELOPMENTS IN AREA DURING NEXT FEW YEARS)
- INDICATING OVERLAPPING OF COMMUNITIES INTO ADJOINING COUNTIES.
- NEIGHBORHOOD BOUNDARIES WITHIN COMMUNITIES.
- INDICATING OVERLAPPING OF NEIGHBORHOODS INTO ADJOINING COUNTIES.
- WOODVILLE — COMMUNITY NAMES.
- Rock Hill — NEIGHBORHOOD NAMES.
- ★ AREAS HAVING NO NEGRO RESIDENTS.

If Negro associational patterns follow white trends, and if hindrances to the development of Negro communities are removed, a community pattern of this type is likely to emerge. Agencies will greatly influence this pattern by the way in which they group Negro neighborhoods for local administration.

MAP 19 - APPROXIMATE AREAS OF WHITE COMMUNITIES IN 1900



LEGEND

- COMMUNITY BOUNDARIES
- INDICATING OVERLAPPING OF GREEN COUNTY COMMUNITIES INTO ADJOINING COUNTIES
- BOUNDARY OF AREA MADE UP OF LARGE PLANTATIONS AND ONLY TO A VERY LIMITED EXTENT A PART OF GREENSBORO COMMUNITY.
- SILOAM — COMMUNITY NAMES

In the last 40 years, the community surrounding the county seat has almost doubled in size at the expense of three other communities. In 1900, neighborhoods were more important and communities less important than today.

However, no white communities in Greene County have completely disappeared since 1900, nor have any new ones emerged.

MAP 20
WHITE NEIGHBORHOODS AND COMMUNITIES

LEGEND

- BOUNDARIES OF COMMUNITIES.
- BOUNDARIES OF NEIGHBORHOODS.
- INDICATING OVERLAPPING OF GREENE COUNTY COMMUNITIES INTO ADJOINING COUNTIES.
- INDICATING OVERLAPPING OF GREENE COUNTY NEIGHBORHOODS INTO ADJOINING COUNTIES.
- BOUNDARIES OF AREAS ATTACHED TO COMMUNITY CENTERS OUTSIDE THE COUNTY
- GREENSBORO — COMMUNITY NAMES
- Vourzey — NEIGHBORHOOD NAMES.
- ★ AREAS WHICH HAVE FEW OR NO WHITE RESIDENTS AND CANNOT BE CONSIDERED NEIGBORHOODS.

EACH COMMUNITY BEARS A SINGLE COLOR.

AREAS ATTACHED TO CENTERS OUTSIDE THE COUNTY ARE LEFT UNCOLORED.

REVIEW

LATIN AMERICA:

Preston E. James

The Odyssey Press

New York 1942

It is seldom that a reviewer is privileged to point out to readers a book which has wisdom, experience, common sense, practicality, scholarship, and imagination all at once. To come upon such a book devoted to Latin America at this crucial turn in our relationships with her and to be able to recognize the book as a complete and accurate manual of economic, social, and anthropological conditions in each Latin American country is indeed to make a find. Perhaps it was not unexpected that it should be so. Professor James is a distinguished geographer who has devoted more than twenty years of study and travel to our southern neighbors. He is foremost among the geographers who know their subject to be as much social science (" human geography ") as natural science. He has always been willing and able to turn to any source, academic or local, which will explain why and how people fit the surface of the earth. He has long explored the reasons for the failure of frontier expansion and population growth in Latin America and has gone far to find those reasons. But it is still nonetheless heartening to find the result up to expectations. There has been a myth current for many years that the Germans have an *Institut für Geopolitik* in which complete information is to be found on likely foreign areas. Whether or not the myth is true as to Germans, Professor James' *Latin America* could offer a model for any such effort. No Norteamericano diplomat, businessman, soldier, scholar, Indianist, traveler, who needs to learn of the conditions of life the other Americans have met and still meet can afford to miss it.

What gives Professor James' book such completeness is first, the arrangement of material, and second its systematic coverage of each area. In both respects, the book follows the practice of manuals. After a brief statement of the characteristics of the country from a geographical standpoint and a summary of its raison dètre - economic, historical, and social - as a nation and a people, James treats the physical character of the country, its vegetation, its land-use patterns, and its distribution of population. With such criteria he delineates the natural regions and their clusters of inhabitants and describes the agriculture, economic organization, and forms of settlement in each. In such fashion he provides the reader with an objective and balanced picture of the important primary conditions of human life in each region presented in comparable terms without sentimental distortion or invidious comparison. As a background of actual conditions in the Latin American countries, from which the intelligent reader can draw his own conclusions, without having to wade through the fogs of political speculation, good-neighborliness, of officious "interpretation", the book is unsurpassed.

Were it a manual, even of the best kind, however, the book would not have so much interest for students of human relations. Beyond his systematic observation, Professor James has some conclusions to present which go to the root of our national problem of meeting the Latin Americans on common ground. He is under no illusions as to easy parallels between Latin American developments and those of North America or Europe. He shows that Latin America is an ancient land, with a form of social structure and a synthesis (still in process) of cultural elements sui generis. It is no simple frontier continent about to blossom as did our own. Local peculiarities are powerful and local complexities very great; and the integration of the continent presents difficulties far beyond those of North America. Economic integration cannot follow that of North America, because the motivation and the habit of economic life is already determined in a traditional mould quite different from that of the "Anglo Saxon" or North European peoples. The metropolitan world-economy that has built great modern cities on the periphery of the continent is a transoceanic importation not yet related to the enduring patterns of Latin American life; it is in no sense a growth of integration from within.

Furthermore, there is no frontier in the North American sense, unless a parallel be drawn with the plantation south with its continued reversion to hillbilly and coastal swamp isolation. Except for four important nuclei of expanding population - four only in the immense continent - the continent is a

land of the "hollow frontier", the isolated native communal village, or the empty jungle. The Iberian latifundia - hacienda and fazenda - and the Indian village are ancient and opposed traditions in perpetual conflict only partly resolved. Yet both are paramount in the culture of the amalgam of races and peoples that have emerged through the centuries.

In fact, the homesteading, familist, mixed-farming frontiersman and peasant of North America and Europe whose presence has meant an expanding population and a denser and denser permanent settlement is a rarity. Only in the four areas of expansion, all still small, is he to be found; and in the four areas, it seems to be his custom, not his race, his national origin, his produce, or his opportunity, that determines expansion.

Here as in other suggestions, Professor James drives through to the point at which understanding based upon a realistic observation of the patterns of social organization to be seen in situ, and there only, can be begun. If human geography continues to lay a ground-work for anthropological study elsewhere in the world as well as Professor James has done it here, it will have made a lasting contribution to an integrated knowledge of the actualities of human existence.

Conrad M. Arensberg
Brooklyn College

REVIEW

The South Seas in the Modern World, by Felix Keesing, with a Foreword by J. B. Condliffe. Institute of Pacific Relations International Research Series. The John Day Company, New York. 1941.

This book represents the results of a joint survey carried out by the Institute of Pacific Relations and the University of Hawaii, and the stated purpose is to attempt "to define comprehensively the political, strategic, and economic role these Oceanic Islands play in the world today, and especially the modern experience and problems of the peoples native to them."(xiii) The book is important for a number of reasons, and deserves a full critique - which it undoubtedly will receive in other journals. This review, however, is particularly concerned with it from the point of view of applied anthropology; (it is assumed that South Seas experts will have read or will read the book anyway). From this point of view, not the least significant feature of the enterprise is that the two institutions with their extensive fact-finding resources turned over the job of co-ordination and interpretation to an anthropologist; rather than to an administrator or economist, which is the usual procedure. The wisdom of this move seems fully justified when one compares the integrated and comprehensive presentation of Keesing's book with some analagous volume like "An Africa Survey". This will be gratifying to the growing group of scientists who consider that social problems can be most effectively analyzed by means of the anthropological "total situation" concept.

The area covered by the book includes Polynesia, Micronesia, and Melanesia; (Indonesia and southeast Asia, the author announces, will be surveyed in another publication to appear shortly). The extent of the work can be fairly well indicated by describing the contents of each chapter:

Chapter I. The Islands and Their People: geographic setting, ethnic divisions; history of imperialism, present political alignments; extent of modern communications.

Chapter II. Economic Perspectives: the position occupied by the South Seas in the world economy; channels of commerce; development of trade; modern commercial trends; economic prospects.

Chapter III. Trends in Native Population: demography; the causes of depopulation in several areas; present-day increases.

Chapter IV. Changes in Modern Days: the agents of change, including traders, missionaries, teachers, and officials; the phases of change; native reactions to alien pressure.

Chapter V. Alternatives in Native Policy: the several objectives proposed by various administrators and theorists - the 'zoological park' proposal of isolation - the policy of speedy assimilation - the encouragement of native-white segregation and parallel development of separate cultures; differences between theorists setting up final goals, and those advocating pragmatic solutions to problems of acculturation; racial and cultural factors determining choice of alternatives.

Chapter VI. Land: The Essential Resource: differences between native and Western land tenure concepts; history of land dealings; necessity for recording traditional titles and boundaries in order to avoid conflict; modern trend toward individualism in land tenure, and the possible consequences of this trend.

Chapter VII. Getting a Living: the tenacity of native economic systems; influence of modern trade upon native economy; the development of new needs; native labor standards; modern trends in

native production; present-day problems and future prospects of fitting natives into world economy.

Chapter VIII. Government and Leadership: present-day political structures in South Seas dependencies; native political institutions, and changes wrought by foreign rule; "indirect" versus "direct" rule; effect of alien codes of law and order upon native behavior; the break-down of traditional native political units and development of wider political unity; some modern native movements toward political autonomy.

Chapter IX. Community and Family Life: generalizations about native kinship and local groupings, aesthetic and leisure activities; effect of outside cultural influences upon these.

Chapter X. Health and Medical Work: health of non-native groups; native health in former days; changing health conditions; the present health situation; remedial phases of medical work; modern large-scale preventive medicine.

Chapter XI. Religion and Missions: the indigenous religions; christian missions at work; native christianity; the rise of cults and sects as result of culture contact; problems and prospects of missionary work.

Chapter XII. The Educational Task: potentialities of education unrealized because of lack of common educational aims; problems of language and literacy; questions of *what* to teach not yet solved; facilities for advanced education; problem of native versus alien teachers.

Chapter XIII. The Non-Native Groups: Chinese, Japanese, East Indians; race mixture, and problems of a hybrid population.

Chapter XIV. Retrospect and Prospect: Possible effects of present world crisis upon future of South Seas.

In addition to the main subject matter of the book contained in the chapters outlined above, there are several appendices supplying statistical documentation on population, communications, currency values, government finance, and economic resources and utilization. There is also a very useful bibliography containing many titles probably unknown to most ethnographers.

The author's division of his material might seem arbitrary to many persons: for example, why treat economics, land tenure, and community life separately? To the reviewer this seemed an unimportant defect, and due more to the conventions of publication than to any shortcomings of the writer. For, the real structure of the argument is apparent throughout: *Here* says the author, *is a vast region with enormous resources, both human and economic. Thus and thus is how these resources have been wasted through lack of skillful development.* This much of the argument is fully developed and poignently documented; but it is the next step which is most intriguing to applied anthropology: *How can these resources be salvaged and utilized to the greatest advantage of all concerned?*

The author has no ready-made answer to this question. He turns to the past, to the history of culture contact, to show what *not* to do; nearly every page of the book contains some record of wasted resources or unfavorable native reaction to attempted reforms. But, about the present and future, the author is indecisive. He certainly does not advocate following the proposals of sentimentalists and others who demand that the natives be left to themselves to work out their own fates; such a condition, he points out, is neither possible nor desirable. Rapid assimilation, he believes, is also impossible, because of race attitudes of imperialists, cultural incompatibilities, etc. Keesing also considers the proposals of "progressive" educationalists, but, he insists, education is only one facet of the whole problem of reform, and the content of education must depend largely upon what is to happen to South Seas politics and economy. And, it is evident to this reviewer that Keesing's indecision about formulating specific native policies is due to his realization that the future of South Seas politics and economy will be decided in Asia and Europe rather than in the South Seas itself. Specific policies, he intimates, must wait until the rest of the world has arrived at some sort of equilibrium; but when that time comes, he emphasizes repeatedly, consistent plans *must* be made, and these must be based on full information about native cultures, plus knowledge of cultural processes supplied by social sciences.

Douglas Oliver
Woodstock, Virginia

ANNOUNCEMENT

COUNCIL ON HUMAN RELATIONS

15 West 77th Street

New York City

The Council on Human Relations is devoted to the study of all those cultural factors - institutions, habits, and character - which, differing profoundly from one nation to another, are relevant to international cooperation.

The Council makes the following assumptions:

A. That any plan for post-war reconstruction and later world-wide cooperation must recognize the validity of different and contrasting civilizations, each of which has developed its own unique and valuable ways of life, its own concepts of order, and its own ways of seeking order.

B. That any plan which is based upon the notion that some one set of cultural ideas should dominate the world is provincial, and doomed to eventual failure. Such a plan would inevitably fail to provide any positive role for the other great civilizations of the world, and would therefore fail to enlist the members of these other civilizations in world cooperation. No plan which conceives of the Atlantic Basin as the hub of civilization and regards the rest of the world as permanently "backward," or as "colonies," has the sort of base within which the peoples of Africa and Asia can be integrated.

C. That scientific knowledge and scientific insight will be necessary in the drawing up of any plan for world cooperation. Such a plan must be conceived on lines which transcend the limitations and cultural assumptions of any one people, and the scientific approach to human relations is the only one which seriously attempts such a width of vision.

INVITATION TO COLLABORATORS

The Council on Human Relations is interested in furthering collaboration among all students of personality and culture whose collected materials, current researches, and projects of research may be useful for a scientific approach to problems of international relations. In particular, the Council is interested in the immediate problems of cooperation among the allied nations and the future problems of world reorganization, when the cooperation of all nations will be necessary.

The Council is requesting the following information:-

1. Names of persons who are:
   a. Carrying on such researches.
   b. Have carried on such researches.
   c. Have raw materials or facilities for such researches.
2. Descriptions of bodies of collected materials which are relevant to the personality and culture problem, especially in the major contemporary cultures of the world, both occidental and oriental, such as:
   a. Collections of autobiographies.
   b. Case histories, personality studies, and systematic observations on individuals or group of individuals.
   c. Results of psychological testing applied to members of different cultures in a standardized way.
   d. Comparable bodies of data on any aspect of contemporary culture, especially bodies of data which have been comparably collected from more than one such culture, e.g., collections of advertising symbols, legal practices and their implications, artistic forms, philosophical systems, etc., that may illuminate cultural emphases and the differences between the various cultures.
   e. Collected data on family patterns and relations and on child rearing and development.
   f. Collected material on the behavior of minority groups in the United States, which may throw light on the cultures of origin of these groups and on the conditions under which members of these groups are able to live and work with members of other cultures.
3. Information about all proposals for current cooperation and post-war planning which explicitly recognize that members of different cultures have been reared under

different sets of institutions, have different personality structures, and diverse ways of seeking social order.

4. Information about new techniques or new applications of existing techniques to the problem of cross-cultural differences in personality and character.

The Council hopes to serve as a clearing house for research in this broad field, by putting those who are interested in working on the same culture in touch with each other, and those who are working with comparable techniques, but on different cultures, in touch with each other. The Council also proposes to circulate among its collaborators abstracts and bibliographies on these subjects.

Gregory Bateson
Council on Human Relations
15 West 77th Street
New York City

EDITORIAL STATEMENT

APPLIED ANTHROPOLOGY is a quarterly journal devoted to the solution of practical problems of human relations in the fields of business and political administration, psychiatry, social work and wherever else human relations play a part. It is based upon the premise that a science of human relations can only be developed if theories are tested in practice.

A prediction which is not susceptible of verification is little more than idle speculation. It provides us with nothing on which a science of human relations can be built. But if we apply the results of an analysis to the solution of a concrete problem, we have performed an experiment, and we have gained a laboratory to test our hypotheses. Was the diagnosis correct? Did the analysis leave out relevant factors? Only the test of experience can separate the superficial and easy explanations from those which have predictive value. APPLIED ANTHROPOLOGY is primarily concerned with encouraging this kind of experimentation in the field of human relations.

During the last two decades, out of the varied efforts of anthropologists, human geographers, administrators in business and government, psychiatrists, psychologists, sociologists, social workers, a new field of science - human relations - has been defined. In spite of marked differences in the terminology and scope of many of these subjects, it has become recognized that all are concerned with the same general problems and that each must become increasingly aware of and use the methods and results of the others. The speed with which the science of human relations becomes fully developed will depend almost entirely on the degree to which the traditional barriers between these subjects are broken down. This in turn depends upon the acceptance in practice of the rule that methods and principles must be developed to fit concrete problems, and not the reverse.

In the course of roughing out this science of human relations, anthropology has played a leading role. It has done this for two main reasons; since its beginnings, it has been by necessity a field science, gathering its facts by interview and observation; and unlike all the others, it has been compelled to study all aspects of a given people. The anthropologist, until recently concentrating on non-European groups, has had to remain unspecialized, or rather, has had to combine in one person all the specialties. He had to do this because, for reasons of expense, it was rarely feasible to send an expedition to the same group a second time. He had, therefore, to record everything while he could. Because of this lack of specialization, the anthropologist learned to look at man as a whole, that is, to generalize from all the facts, without omitting any because they were traditionally assigned to another subject. He was enormously aided in developing a general point of view because of the wide diversities in ways of life of the groups he had to study. Any generalization had to be checked against markedly different cultural situations. Thus when the anthropologist finally turned to consideration of his own culture, he had learned an objectivity and a general point of view which stood him in good stead.

Looking at man as a whole means that no aspect of human relations is omitted from consideration. Beginning with the premise that man is an organism, the anthropologist tries to explain man's behavior in terms of known physiological principles. He sees human relations, therefore, as the way in which organisms adjust to one another and to the natural environment. Differences in these adjust-

ments bring about those individual differences we refer to as personality; and the differences in the ways groups of individuals are related to one another make up man's institutions: familial, economic, political, religious and associational. The variations in complexity of institutions and in the adjustment of individuals within them are seen by the anthropologist as due to what he calls culture, the habitual techniques and routines making up man's adaptation to the external environment, which control the relations of people to one another and fix the limitations within which man has to adjust.

Because anthropology regards man as a whole in this sense, it can provide a unifying center around which a science of human relations can grow. The technological problems which plagued the people of an earlier day, problems of food and shelter and health, of more efficient means of transportation and communication, have largely been solved. We can look forward to increasing technical triumphs provided we are able to master the maladjustments in human relations resulting from technological change. At the present time, little attempt is made even to use what we already know in dealing with such problems. Only when the science of human relations becomes as fully developed as the older natural sciences can we hope to eliminate sources of individual maladjustment, bring about harmonious relations between the many groups making up a single nation, work out more effective and democratic systems of government, and extend their sway to the relationships between nations. Only with such a science can the basic problem of our civilization be solved how to increase our human adjustment and at the same time to increase our technological efficiency. It is the hope of the members of the Society for Applied Anthropology that this journal will assist in this development.

For these reasons, APPLIED ANTHROPOLOGY will publish only articles which contribute to the solution of practical problems. In many cases, the results of a research may not be immediately applicable for reasons outside the control of the investigators. But in all cases, the practical uses of the work must be clearly stated, and a method outlined by which the results of the investigation could be applied. In the early issues, we expect that there will be a greater number of articles in which no test of the author's diagnosis was carried out; before very long we hope to be able to publish a majority of articles in which an account is given of the way recommendations were arrived at and what the results were of putting them into operation. We are interested in failures as well as successes, provided an attempt is made to show what the reasons were for the failures. Primarily, APPLIED ANTHROPOLOGY is designed not only for scientists, but even more for those concerned with putting plans into operation, administrators, psychiatrists, social workers, and all those who as part of their responsibility have to take action in problems of human relations.

NOTES ON CONTRIBUTORS

Eliot D. Chapple is a research fellow at Harvard Medical School and an organization consultor.

Erich Lindemann is associate in Psychiatry at the Harvard Medical School and head of the Out-Patient Psychiatric clinic at the Massachusetts General Hospital.

Conrad M. Arensberg is professor of Anthropology and chairman of the Department of Anthropology and Sociology at Brooklyn College.

Douglas Macgregor is professor of Industrial Research at the Massachusetts Institute of Technology.

Douglas L. Oliver is a member of the Board of Economic Warfare.

Thomas H. W. Stonborough of the Industrial Surveys Company is a psychologist who has concentrated on the field of public opinion.

Charles P. Loomis and Douglas Ensminger are members of the Division of Farm Population and Rural Welfare, Bureau of Agricultural Economics, United States Department of Agriculture.